DEQ
Montana Department
of Environmental Quality

MAILED
FEB 26 2018

February 23, 2018

Mr. Dave Schultz
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: **CLOSED BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20
SEPTEMBER 2017 GROUNDWATER MONITORING REPORT**

Dear Mr. Schultz:

The report has been reviewed and meets the requirements of the Administrative Rules of Montana Title 17, Chapter 50, Subchapter 13.

The facility remains in corrective action with semi-annual monitoring. If you have any questions please contact me.

Sincerely,

John Collins
Hydrogeologist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: jcollins3@mt.gov

cc: Mr. Joe McElroy, P.E., Pioneer Technical Services, PO Box 3445, Butte, MT 59702

Correspondence Slip

Originator: JC

Date Requested: 2-21-18

Needed By: 2-23-18

REVIEW ROUTING

Name	Task	Initial/Date
SARA NELSEN	Proof	SN, 2/22
MLH		2-23
KI		KI, 2-23-18
		/

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DEQ
Montana Department
of Environmental Quality

MAILED
AS 8-17-15

August 17, 2015

Mr. David Schultz, P.E.
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: **BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20**
REVISED GROUNDWATER MONITORING SAMPLING AND ANALYSIS PLAN

Dear Mr. Schultz:

Thank you for submitting the revised Sampling and Analysis Plan (SAP), dated June 2015. The SAP is approved and will be included in our files. Please use the procedures described in this SAP for all future sampling events.

If you have any questions or comments please contact me.

Sincerely,

John Collins
Hydrogeologist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: jcollins3@mt.gov

Cc: J.D. Emmert, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Methane Monitoring
Silver Bow Co.\Butte-Silver Bow Class II\License #330\Methane Monitoring

Correspondence Slip

ate Requested: 8-3-15

Originator: JC

Date Needed By: ____

REVIEW ROUTING

Name	Task	Initial/Date
Admin	Proof	AS /8/4/15
mel		mlh 8-13
RT		RT, 8-17-15
	mailed	AS 8-17-15

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Special Instructions: Silver Bow

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MAILED
AS 8-17-15

August 14, 2015

Mr. Dave Schultz
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: **Closed Butte-Silver Bow County Landfill – License #20**
March 2015 Groundwater Monitoring Results

Dear Mr. Schultz:

The March 2015 groundwater monitoring report for the closed Butte-Silver Bow County Class II Landfill has been reviewed and meets the requirements of the Administrative Rules of Montana Title 17, Chapter 50, Subchapter 13.

The facility remains in corrective action with semi-annual monitoring at this time. If you have any questions or comments, please contact me.

Sincerely,

John Collins
Hydrogeologist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: jcollins3@mt.gov

cc: Mr. Brad Hollamon, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Groundwater Monitoring

Correspondence Slip

D[illegible]Requested: 8/6/15

Originator: JC

Date Needed By: 8/14/15

REVIEW ROUTING

Name	Task	Initial/Date
Admin	Proof	AS 8/13/15
mel		8-13
RT		RT, 8-17-15
	Mailed	AS 8-17-15

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DEQ
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of Environmental Quality

MAILED
FB 6/3/15

June 2, 2015

Mr. Dave Schultz
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: **CLOSED BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20**
JANUARY 2015 EVALUATION OF THE EFFECTIVENESS OF CORRECTIVE MEASURES

Dear Mr. Schultz:

The January 2015 Evaluation of the Effectiveness of Corrective Measures report for the closed Butte-Silver Bow County Class II Landfill has been reviewed. The report meets the requirements of the Administrative Rules of Montana Title 17, Chapter 50, Subchapter 13. The report has been placed in our files. I have the following comments:

DEQ notes that there are indications of improving groundwater quality at the site due to the positive effects of the corrective measures. I concur with the statement that it may be technically impractical to achieve all of the Ground Water Protection Standards (GWPS) for inorganic compounds. This appears to be due to the combined effect of the tailings, which were buried in and above the saturated zone, and the location of the Grove Gulch conduit, which is connected to tailings impoundment dewatering structures. This conduit conveys water through the toe of the Clark Tailings and acts to provide additional flow through that portion of the tailings and into the upper portion of the aquifer which will continue to leach inorganic compounds for many decades. The corrective measures have ensured the protection of human health and the environment; capping the site and implementing the Old Butte Landfill controlled groundwater area removes any potential direct exposure risk to human health and the environment. These actions have met the requirements of ARM 17.50.1309(2), with the exception of (2) (b), which is to attain GWPS, which may not be technically practical for inorganic compounds.

The facility remains in corrective action with semi-annual monitoring at this time. If you have any questions or comments, please contact me.

Sincerely,

John Collins
Hydrogeologist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: jcollins3@mt.gov

cc: Mitch Mihailovich Project Engineer, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Groundwater Monitoring

Correspondence Slip

Project ID:

Requested: 5-27-15

Needed By: 5-29-15

Originator: JL

Org(s)/Mail Code:

REVIEW ROUTING

Name	**Task**	**Initial/Date**
Admin	Proof	AS / 5/28/15
MEH		MEH / 6/1
KI		KI / 6-1-15
	mailed	AS / 6/3/15

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Special Instructions:

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Copies of enclosures for file needed? Y [✓ N]

Copy of letter for file needed? [✓ Y] N

DEQ
Montana Department
of Environmental Quality

MAILED
3-25-15 AS

March 25, 2015

Mr. Dave Schultz
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: **CLOSED BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20**
SEPTEMBER 2014 GROUNDWATER MONITORING RESULTS

Dear Mr. Schultz:

The September 2014 groundwater monitoring report for the closed Butte-Silver Bow County Class II Landfill has been reviewed. The report meets the requirements of the Administrative Rules of Montana Title 17, Chapter 50, Subchapter 13. The report and has been placed in our files. I have the following comments:

> The table below outlines the wells exceeding either Circular DEQ-7 groundwater protection standards or the EPA maximum contaminant limit. Those values are next to the constituent in bold.

Monitor Well	Vinyl Chloride (ug/l)**0.5**	Sulfate(mg/l)**250**	Arsenic(mg/l)**0.01**	Cadmium(ug/l)**5.0**
BSB-A5R		494		
BSB-A6R	1.7	1160		
CLK-1		908	0.12	13
CLK-2		728		

Thank you for submitting the review of the effectiveness of corrective measures on January 30, 2015. This review should be conducted every five years.

The Sampling and Analysis Plan was last updated in 2009 and is due for the five year review. After conversations with Mr. Hollamon, this is being updated, along with a request for analyte reduction of Organochloride Pesticides, EPA method 8081 and Chlorinated Herbicides, EPA method 8151. Since these compounds have not been detected since 2001, I agree that this analysis can be discontinued.

The facility remains in corrective action with semi-annual monitoring at this time. If you have any questions or comments, please contact me.

Sincerely,

John Collins, Hydrogeologist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: jcollins3@mt.gov

cc: Mr. Brad Hollamon, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Groundwater Monitoring

Steve Bullock, Governor | Tom Livers, Director | P.O. Box 200901 | Helena, MT 59620-0901 | (406) 444-2544 | www.deq.mt.gov

Correspondence Slip

Originator: JC

Da[illegible]quested: 3/10/15

Date Needed By: 3/17/15

REVIEW ROUTING

Name	Task	Initial/Date
Admin	Proof	AS / 3/23/15
meH		mlh / 3-24
RT		/
	mail	AS / 3/25

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MAILED
10-21-14

October 14, 2014

Mr. Dave Schultz
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: **CLOSED BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20**
MARCH 2014 GROUNDWATER MONITORING RESULTS

Dear Mr. Schultz:

I have reviewed the March 2014 groundwater monitoring results for the closed Butte-Silver Bow County Class II Landfill. The groundwater monitoring report meets the requirements of the Administrative Rules of Montana Title 17, Chapter 50, Subchapter 13. I have the following comments:

> The table below outlines the wells exceeding either Circular DEQ-7 groundwater protection standards (GWPS) or the EPA maximum contaminant limit (MCL) those values are next to the constituent in bold.

Monitor Well	Vinyl Chloride (ug/l)**0.5**	Sulfate(mg/l)**250**	Arsenic(mg/l)**0.01**	Cadmium(ug/l)**5**
BSB-A6R	1.7	1110		
CLK-1		1070	0.096	15
CLK-2		773		

The last review of the effectiveness of corrective measures was completed in April of 2009. This review should be conducted every five years. Based on this time frame, the submittal of the five year evaluation is due this year. Please submit this evaluation by December 31, 2014.

The facility remains in corrective action with semi-annual monitoring at this time. If you have any questions or comments, please contact me.

Sincerely,

John Collins
Environmental Science Specialist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: jcollins3@mt.gov

cc: Mr. Brad Hollamon, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Groundwater Monitoring

Correspondence Slip

Date Requested: 2/2/11

Originator: MVO

Date Needed By: 2/4/11

REVIEW ROUTING

Name	**Task**	**Initial/Date**
Admin	Proof	/ 2/2/11
Mary H	Review	/ 2-3-11
Rick	↓	/ 2-3
		/

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MAILED
1-15-14

Montana Department of
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January 16, 2014

Mr. Rick Larson
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: **CLOSED BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20**
OCTOBER 2013 GROUNDWATER MONITORING RESULTS

Dear Mr. Larson:

I have reviewed the October 2013 groundwater monitoring results for the closed Butte-Silver Bow County Class II Landfill. The groundwater monitoring report meets the requirements of the Administrative Rules of Montana Title 17, Chapter 50, Subchapter 13. I have the following comments.

The concentration for Vinyl chloride, 1.6ug/l exceeded groundwater protection standards in BSB-A6-R. Concentrations of cadmium, cobalt, and zinc in CLK-1 have decreased below groundwater protection standards. Although arsenic in CLK-1was above the groundwater protection standard of 0.01 mg/l at 0.150 mg/l.

The facility remains in corrective action with semi-annual monitoring at this time. If you have any questions or comments, please contact me.

Sincerely,

John Collins
Environmental Science Specialist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: jcollins3@mt.gov

cc: Mr. Brad Hollamon, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Groundwater Monitoring

MAILED
8-22-13 jh

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Tracy Stone-Manning, Director

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August 22, 2013

Mr. Rick Larson
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: **CLOSED BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20**
APRIL 2013 GROUNDWATER MONITORING RESULTS

Dear Mr. Larson:

I have reviewed the April 2013 groundwater monitoring results for the closed Butte-Silver Bow County Class II Landfill. The groundwater monitoring report meets the requirements of the Administrative Rules of Montana Title 17, Chapter 50, Subchapter 13. I have the following comments for your consideration.

The concentration for Vinyl chloride exceeded groundwater protection standards in BSB-A6-R. Concentrations of Arsenic, Cadmium, Cobalt, and Zinc in CLK-1 have decreased below groundwater protection standards.

The facility remains in corrective action with semi-annual monitoring at this time. If you have any questions or comments, please contact me.

Sincerely,

John Collins
Environmental Science Specialist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: jcollins3@mt.gov

cc: Mr. Brad Hollamon, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Groundwater Monitoring

Correspondence Slip

Date Requested: 7/30/13

Originator: John C.

Date Needed By: ____________

REVIEW ROUTING

Name	Task	Initial/Date
Admin	Proof	Jh/7-30
mlk	Review	mlk/7-31
Bruce		/
Rich		RT/8-1-13

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MAILED
5-2-13 jh

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Tracy Stone-Manning, Director

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May 2, 2013

Mr. Rick Larson
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: **CLOSED BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20**
APPROVED – MARCH 2013 REQUEST FOR CHANGE IN SAMPLING AND ANALYTICAL CONSTITUENTS

Dear Mr. Larson:

Thank you for submitting the March 2013 request to discontinue sampling for selected constituents at the closed Butte-Silver Bow County Class II Landfill. The request is approved with the following exceptions:

- Dissolved metals: Please continue to sample for Antimony, Barium, Selenium, and Vanadium during semi-annual sampling. The frequency of sampling for Mercury may be reduced to once every two years.
- Organochlorine herbicides: The frequency of sampling for organochlorine herbicides may be reduced to once every two years.

EPA Method SW8260 may continue to be used for the analysis of 1,2-Dibromo-3-chloropropane and 1,2-Dibromoethane, and the best possible reporting limits for these analyses using method SW8260 will be accepted for solid waste facility samples.

If you have any questions or comments please contact me.

Sincerely,

Martin Van Oort
Environmental Science Specialist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: mvanoort@mt.gov

cc: Mr. Brad Hollamon, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Groundwater Monitoring

Correspondence Slip

Date Requested: 4/19/13

Originator: MVO

Date Needed By: 4/23/13

REVIEW ROUTING

Name	Task	Initial/Date
Admin	Proof	Jh / 4-19
Mary H	Review	/ 4-24
Bruce	↓	/ 4-29-13
Rick	↓	RT / 5-1-13

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MAILED
2-8-13

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February 7, 2013

Mr. Rick Larson
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: **CLOSED BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20**
OCTOBER 2012 GROUNDWATER MONITORING RESULTS

Dear Mr. Larson:

I have reviewed the October 2012 groundwater monitoring results for the closed Butte-Silver Bow County Class II Landfill. The groundwater monitoring report meets the requirements of the Administrative Rules of Montana Title 17, Chapter 50, Subchapter 13. Please consider the following comment:

- The analytical report notes that the sample for cyanide from well BSB-A6-R did not meet the preservation requirement of pH >12. Proper preservation of samples is necessary to ensure accurate analytical results. Please ensure all samples are adequately preserved during future sampling events.

Concentrations met or exceeded groundwater protection standards for 1,1-Dichloroethane and Vinyl chloride in BSB-A6-R; Arsenic, Cadmium, Cobalt, and Zinc in CLK-1; and Cobalt in CLK-2.

The facility remains in corrective action with semi-annual monitoring at this time. If you have any questions or comments regarding this review, please contact me.

Sincerely,

Martin Van Oort
Environmental Science Specialist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: mvanoort@mt.gov

cc: Mr. Brad Hollamon, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Groundwater Monitoring

Correspondence Slip

Date Requested: 2/1/13

Originator: MVO

Date Needed By: 2/5/13

REVIEW ROUTING

Name	Task	Initial/Date
Admin	Proof	Jh 2-4
MaryH	Review	2-5
Bruce	↓	2-6-13
Rick	↓	RL 2-7-13

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EMAIL copy sent to Project Originator? Y N

MAILED
9-4-12

Montana Department of
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Richard H. Opper, Director

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August 30, 2012

Mr. Rick Larson
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: **CLOSED BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20**
MARCH 2012 GROUNDWATER MONITORING RESULTS

Dear Mr. Larson:

I have reviewed the March 2012 groundwater monitoring results for the closed Butte-Silver Bow County Class II Landfill. The groundwater monitoring report meets the requirements of the Administrative Rules of Montana Title 17, Chapter 50, Subchapter 13.

The continued elevated concentrations of Tetrachloroethene, Trichloroethene, and cis-1,2-Dichloroethene in well BSB-A5 remain a concern. The trends of these parameters should continue to be closely monitored in future sampling events.

The facility remains in corrective action with semi-annual monitoring at this time. If you have any questions or comments regarding this review, please contact me.

Sincerely,

Martin Van Oort
Environmental Science Specialist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: mvanoort@mt.gov

cc: Mr. Brad Hollamon, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Groundwater Monitoring

Correspondence Slip

Date Requested: 8/28/12

Originator: MVO

Date Needed By: 8/30/12

REVIEW ROUTING

Name	Task	Initial/Date
Admin	Proof	/ 8-28-12
MaryH	Review	8-30
Bruce	↓	/ 8-30-12
Rick		/ 8-31-12

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MAILED
1-27-12 Jh

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Richard H. Opper, Director

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January 26, 2012

Mr. Rick Larson
Butte-Silver Bow Landfill
126 West Granite Street
Butte, MT 59701-9216

RE: **CLOSED BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20**
SEPTEMBER 2011 GROUNDWATER MONITORING RESULTS

Dear Mr. Larson:

The Solid Waste Program (SWP) has reviewed the September 2011 groundwater monitoring results for the closed Butte-Silver Bow County Class II Landfill. The groundwater monitoring report meets the requirements of the Administrative Rules of Montana Title 17, Chapter 50, Subchapter 13.

The SWP notes the increases in the concentrations of Tetrachloroethene, Trichloroethene, and cis-1,2-Dichloroethene, and the detection of 1,1-Dichloroethane in well BSB-A5. These trends should be closely monitored in future sampling events.

The facility remains in corrective action with semi-annual monitoring at this time. If you have any questions or comments regarding this review, please contact me at the Permitting and Compliance Division, Waste and Underground Tank Management Bureau, Solid Waste Section.

Sincerely,

Martin Van Oort
Environmental Science Specialist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: mvanoort@mt.gov

cc: Mr. Brad Hollamon, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Groundwater Monitoring

Correspondence Slip

Date Requested: 1/24/12

Originator: MVO

Date Needed By: 1/26/12

REVIEW ROUTING

Name	Task	Initial/Date
Admin	Proof	1-24-12
MaryH	Review	1-24
Bruce	↓	1-24-12
Rick		RT 1-25-2012

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Closed

County Silver Bow #20

Facility & # Butte-Silver Bow

Closure
Finan Assur
GW Corr Meas
[✓ GW Monitoring]
GW Reports
Inspections
Landfarm
Liner
Methane
O & M
Run-on

Other: ____________________

Van Oort, Martin

From: Brad Hollamon [bhollamon@pioneer-technical.com]
Sent: Monday, March 21, 2011 10:23 AM
To: Van Oort, Martin
Cc: 'Shawn Bisch'
Subject: FW: Old Landfill/Clark Tailings Semi-Annual Sampling

Martin,

Due to a winter storm warning for the Butte area for today and tomorrow the sampling at the BSB Old Landfill site has been postponed until Monday April 4, 2011.

Thanks,
Brad

From: Brad Hollamon [mailto:bhollamon@pioneer-technical.com]
Sent: Thursday, March 10, 2011 9:58 AM
To: 'MVANOORT@mt.gov'
Cc: 'Shawn Bisch'
Subject: Old Landfill/Clark Tailings Semi-Annual Sampling

Martin,

Pioneer personnel are planning to sample The Old Landfill/Clark Tailings site on March 21st and 22nd weather permitting.

If you have any questions or concerns please contact myself or Julie Flammang (406-498-0628).

Brad Hollamon
Pioneer Technical Services
406-490-7678

MAILED
7-22-11 jh

Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor
Richard H. Opper, Director

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.mt.gov

July 21, 2011

Mr. Rick Larson
BUTTE-SILVER BOW LANDFILL
126 West Granite Street
Butte, MT 59701-9216

RE: **CLOSED BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20**
APRIL 2011 GROUNDWATER MONITORING RESULTS

Dear Mr. Larson:

The Solid Waste Program (SWP) has reviewed the April 2011 groundwater monitoring results for the closed Butte-Silver Bow County Class II Landfill. The groundwater monitoring report meets the requirements of the Administrative Rules of Montana Title 17, Chapter 50, Subchapter 13.

The SWP notes the increases in the concentrations of Tetrachloroethene, Trichloroethene, and cis-1,2-Dichloroethene in well BSB-A5. This trend should be closely monitored in future sampling events.

The facility remains in corrective action with semi-annual monitoring at this time. If you have any questions or comments regarding this review, please contact me at the Permitting and Compliance Division, Waste and Underground Tank Management Bureau, Solid Waste Section.

Sincerely,

Martin Van Oort
Environmental Science Specialist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: mvanoort@mt.gov

cc: Mr. Brad Hollamon, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Groundwater Monitoring
Path: G:\WUT\SWS\GWater\Responses\Silver Bow Co\2011-04_cl_bsb_20_GW.docx

Correspondence Slip

Date Requested: 7/19/11

Originator: MVO

Date Needed By: 7/21/11

REVIEW ROUTING

Name	Task	Initial/Date
Admin	Proof	Jh, 7-19-11
Mary H	Review	7-19
Bruce	↓	~~BMO~~, 7-20-11
Rick		RT, 7-21-11
		7/21

Mail original via:
☒ Regular ○ Certified ○ Registered ○ FedEx

Fax to addressee at:

Proof Path: G:\WUT\ see letter

Special Instructions:

Mail copy of enclosures to CC's? Y [✓ N]

Copies of enclosures for file needed? Y [✓ N]

Copy of letter for file needed? [✓ Y] N

Email copies sent? Y [✓ N]

EMAIL copy sent to Project Originator? Y N

MAILED
2-4-11

Montana Department of
ENVIRONMENTAL QUALITY

Brian Schweitzer, Governor
Richard H. Opper, Director

P.O. Box 200901 • Helena, MT 59620-0901 • (406) 444-2544 • www.deq.mt.gov

February 4, 2011

Mr. Rick Larson
BUTTE-SILVER BOW LANDFILL
126 West Granite Street
Butte, MT 59701-9216

RE: **CLOSED BUTTE-SILVER BOW COUNTY LANDFILL – LICENSE #20**
SEPTEMBER 2010 GROUNDWATER MONITORING RESULTS

Dear Mr. Larson:

The Solid Waste Program has reviewed the September 2010 groundwater monitoring results for the closed Butte-Silver Bow County Class II Landfill. The groundwater monitoring report meets the requirements of the Administrative Rules of Montana Title 17, Chapter 50, Subchapter 13.

The facility remains in corrective action with semi-annual monitoring at this time. If you have any questions or comments regarding this review, please contact me at the Permitting and Compliance Division, Waste and Underground Tank Management Bureau, Solid Waste Section.

Sincerely,

Martin Van Oort
Environmental Science Specialist
Solid Waste Program
Phone: 406-444-2802, Fax: 406-444-1374
E-mail: mvanoort@mt.gov

cc: Mr. Brad Hollamon, Pioneer Technical Services, PO Box 3445, Butte, MT 59702

File: Closed\Silver Bow Co.\Butte-Silver Bow Class II\License #20\Groundwater Monitoring
Path: G:\WUT\SWS\GWater\Responses\Silver Bow Co\2010-09_cl_bsb_20_GW.docx

Correspondence Slip

Date Requested: 1/13/14

Originator: JC

Date Needed By: ____________

REVIEW ROUTING

Name	Task	Initial/Date
Admin	Proof	Jh / 1-13
mch		mch / 1-14
BDD		BDD / 1-14-~~13~~14
RT	review	RT / 1-15-14

Mail original via:
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Special Instructions:

Mail copy of enclosures to CC's? [✓ Y] N

Copies of enclosures for file needed? Y [✓ N]

Copy of letter for file needed? [✓ Y] N

Email copies sent? Y N

~~EMAIL~~ Hard copy sent to Project Originator? [✓ Y] N

PIONEER
TECHNICAL SERVICES, INC.

County Butte-Silver Bow
Facility & # 20
Closure
Finan Assur
GW ~~Corr Meas~~
[✓ GW Monitoring]
GW Reports
Inspections
Other: ____
Landfarm
Liner
Methane
O & M
Run-on

October 20, 2015

Mr. John Collins
Montana DEQ/Solid Waste Program
P.O. Box 200901
Helena, Montana 59620-0901

RE: Old Butte-Silver Bow County Landfill/Clark Tailings

Dear John:

Enclosed are results from the Old Butte-Silver Bow County Landfill/Clark Tailings September 2015 semi-annual groundwater monitoring event. The following have been included for your information:

- September 2015 sampling summary;
- Table 1 analytical data summary;
- Table oldlfctsept15 (non-parametric comparison of wells) (is provided electronically on the CD);
- Groundwater field parameters collected in the field;
- Copy of field notes;
- Trend graphs of detected compounds;
- Groundwater potentiometric surface map for September 2015; and
- Analytical data from Pace Laboratories in Minneapolis, Minnesota.

The calculated Confidence Level of 97.8 % was found using the formula n/(n+k), where n is the total number of background samples collected and k is the number of future sampling events (Section 4.2.1 Non-Parametric Prediction Intervals, Pages 61-63 and Table A-7, Appendix A; Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities; Addendum to Interim Final Guidance; and Office of Solid Waste Permits and State Programs Division, U.S. EPA, July 1992).

The groundwater velocity was calculated using Darcy's Law and the equation for the seepage velocity. The average groundwater velocity for September 2015 sampling event was 0.12 feet per day (ft/day). The hydraulic conductivity value used to obtain the groundwater velocity was obtained from the *Corrective Measures Assessment Report* (Pioneer, 2009) and from the March 2009 pumping data.

Sincerely,

Brad Hollamon

Brad Hollamon
Senior Technician

PIONEER
TECHNICAL SERVICES, INC.

#020

ET RECEIVED
OCT 22 2015
Dept. of Enviro. Quality
Waste & Underground
Tank Management Bureau

October 20, 2015

Mr. John Collins
Montana DEQ/Solid Waste Program
P.O. Box 200901
Helena, Montana 59620-0901

RE: Old Butte-Silver Bow County Landfill/Clark Tailings

Dear John:

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- Table 1 analytical data summary;
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Sincerely,

Brad Hollamon

Brad Hollamon
Senior Technician

HEADQUARTERS: PO BOX 3445 • BUTTE, MT 59702 | PH: 406.782.5177 • FX: 406.782.5866 | WWW.PIONEER-TECHNICAL.COM

Encl.

cc. Dave Schultz, BSB Landfill Manager
Mitch Mihailovich, Pioneer
Loren Burmeister, Atlantic Richfield (electronic copy)
Cord Harris, Atlantic Richfield (w/o enc. – email)
Terry Moore, Atlantic Richfield (w/o enc. – email)
70.04.25.16 – MiningSharePoint@bp.com

OLD SILVER BOW LANDFILL
SEPTEMBER 2015 GROUNDWATER MONITORING

The September 2015 sampling event at the Old Butte-Silver Bow Landfill included sampling in accordance with the modified assessment-monitoring program. Table 1, attached, summarizes the analytical results. The discussion below compares these data to previous results and to current Maximum Contaminant Levels (MCLs) and Montana Human Health Standards (HHSs).

Well MBMG-2 (up gradient):

In accordance with the modified assessment-monitoring program, semi-volatiles, chlorinated acids, and pesticides were not collected in the well during this sampling event. No volatile compounds were detected during this sampling event. Metals that were detected below the maximum background concentrations are; As (0.0012 mg/L), Ba (0.150 mg/L), Cr (0.00044 J mg/L), Cu (0.0033 mg/L), Ni (0.00020 J mg/L), Se (0.00058 mg/l) and V (0.0070 mg/l). There were no metals detected above the maximum background concentrations during this sampling event. Nitrate/nitrite (2.90 mg/L), Chloride (60 mg/l), and Sulfate (188 mg/L) were detected at concentrations below the maximum background. No MCL or HHS exceedences were observed in this well during this sampling event.

Well BSB-A1 (North):

In accordance with the modified assessment-monitoring program, semi-volatile, chlorinated acids, pesticides and a sample for metals analyses were not collected from this well.
There were no inorganic or volatile compounds detected at levels above maximum baseline or above maximum background in this well during this sampling event.
No MCL or HHS exceedences were observed in this well during this sampling event.

Well BSB-A5 (Northeast Well):

In accordance with the modified assessment-monitoring program, semi-volatile, chlorinated acids, pesticides and a sample for metals analyses were not collected from this well.
One volatile compound cis-1,2-Dichloroethene (2.4 µg/L) was detected at levels above maximum background in this well during this sampling event.
Sulfate detected at 685 mg/L exceeds maximum background concentration.
Sulfate also exceeds the secondary US EPA MCL of 250 mg/L.

Well BSB-A6-R (Central Well):

Well BSB-A6-R is the replacement well for BSB-A6, removed during the construction of Timber Butte Youth Park. Twelve volatile organic compounds (VOC's) were detected in this well; seven of the twelve were detected at levels below the quantification limit. The twelve volatile organic compounds were as follows:

- Benzene (0.53 J ug/L);
- 1,4-Dichlorobenzene (1.50 ug/L); exceeds maximum background.
- Dichlorodifluoromethane (1.60 ug/L); exceeds maximum background.
- 1,1-Dichloroethane (1.10 ug/L); exceeds maximum background.
- Cis-1,2-DCE (3.60 ug/L); exceeds maximum background.
- 1,2-Dichloropropane (0.55 J ug/L);
- Ethylbenzene (0.32 J ug/L);
- Tetrachloroethene (0.20 J ug/L);
- Trichloroethene (0.26 J ug/L);
- Vinyl Chloride (1.90 ug/L); exceeds maximum background.
- M&P-Xylene (0.81 J ug/L);
- O-Xylene (0.52 J ug/L).

Vinyl Chloride exceeds the MDEQ-7 HHS standard of 0.2 ug/L.

In accordance with the modified assessment-monitoring program, semi-volatile, chlorinated acids, pesticides and a sample for metals analyses were not collected from this well.
Sulfate (2050 mg/L) and COD (448 mg/L) exceeded maximum background concentrations. Sulfate exceeds the secondary US EPA MCL of 250 mg/L.
Chloride (78.7 mg/L) exceeds maximum background concentration.

Well CLK-1 (Clark Tailings East Well):

In accordance with the modified assessment-monitoring program, no samples for organic analyses were collected from this well. Metals detected above maximum background but below maximum baseline are; arsenic (0.150 mg/L); cadmium (0.012 mg/L); cobalt (0.040 mg/L), iron (15.2 mg/L), nickel (0.034 mg/L) and zinc (41.9 mg/L). Arsenic, cadmium, iron and zinc exceed US EPA MCL or Montana HHS standards.
Sulfate was detected at a concentration of 770 mg/L, which exceeds the maximum background and the secondary US EPA MCL or 250 mg/L for this compound.

Well CLK-2 (Clark Tailings North Well):

In accordance with the modified assessment-monitoring program, no samples for organic analyses were collected from this well. Cadmium (0.0012 mg/L), and Zinc (0.710 mg/L) were all detected above maximum background but below maximum baseline. Nickel (0.049 mg/L) was detected above maximum background and maximum baseline.
Sulfate was detected at a concentration of 757 mg/L, which exceeds the maximum background and the secondary US EPA MCL of 250 mg/L for this compound.

Conclusion:

The September 2015 sampling event at the Old Butte-Silver Bow Landfill included sampling according to the modified assessment-monitoring program (see Table 1 for analytical data). The results for metals, inorganics, and organic contaminants obtained from this sampling event were comparable to previous results.

SAMPLE NUMBER	BSB-GW-	BSB-GW-O9	GW PROTECTION STANDARDS	
WELL	MBMG-	Field Blank	USEPA	MONTANA
ANALYTE (units):		Trip Blank	MCL*	HHS
DISSOLVED METALS (mg/L)				
Antimony	< 0	< 0.0005	0.006	0.014
Arsenic	0	< 0.0005	0.05	0.01
Barium	0	< 0.0003	2	2
Beryllium	< 0	< 0.0002	0.004	0.004
Cadmium	< 0	< 0.00008	0.005	0.005
Chromium	(Pace 0.00044 J)< 0	Pace 0.00030 J)< 0.0005	0.1	0.1
Cobalt	< 0	< 0.0005	- - -	- - -
Copper	0	Pace 0.00041 J)< 0.001	1.3 (a)	1.3
Iron	< 0	< 0.050	0.3(s)	0.3
Lead	< 0	< 0.0001	0.015 (a)	0.015
Mercury	< 0	ace 0.000036 J)< 0.002	0.002	0.002
Nickel	(Pace 0.00020 J)< 0	< 0.0005	0.1	0.1
Selenium	0	< 0.0005	0.05	0.05
Silver	N	NR	0.1	0.1
Thallium	N	NR	0.002	0.002
Tin	N	NR	-	
Vanadium	0	< 0.001	- - -	- - -
Zinc	< 0	0.0059	5	2
INORGANICS (mg/L)				
Chloride	6	< 1.0	250	- - -
COD	< 5	NR	- - -	- - -
Conductivity (umhos/cm)	8	2.2	- - -	- - -
Cyanide	(Pace 0.0056 J)< 0	NR	- - -	0.2
Nitrate\Nitrite - N	2	NR	10	10
pH	7	7.9		
Sulfate	1	< 2.5	250	- - -
Sulfide	N	NR		
EPA METHOD 8260 (ug/L)				
Acetone	< 2	< 20.0	- - -	- - -
Benzene	< 1	< 1.0	5	5
Carbon Disulfide	< 1	< 1.0	- - -	- - -
Chloroethane	< 1	< 1.0	- - -	- - -
Chloroform	< 1	< 1.0	- - -	70
Chlormethane	< 4	< 4.0	- - -	- - -
1,4-Dichlorobenzene	< 1	< 1.0	75	75
Dichlorodiflouromethane	< 1	< 1.0	- - -	1000
1,1-Dichloroethane	< 1	< 1.0	- - -	- - -
1,2-Dichloroethane	< 1	< 1.0	5	4
cis-1,2-Dichloroethene	< 1	< 1.0	70	70
trans-1,2-Dichloroethene	< 1	< 1.0	100	100
Ethylbenzene	< 1	< 1.0		
1,2-Dichloropropane	< 4	< 4.0	5	5
4-Isopropyltoluene	N	NR	- - -	- - -
Methylene Chloride	< 4	< 4.0	5	30
Naphthalene	N	NR	- - -	100
Tetrachloroethene	< 1	< 1.0	5	5
Trichloroethene	< 0	< 0.4	5	5
1,2,4-Trimethylbenzene	N	NR	- - -	- - -
Vinyl Chloride	< 0	< 0.4	2	0.2
EPA METHOD 8270 (ug/L)				
bis(2-ethylhexyl)Phthalate	S	SA	6	6
EPA METHOD 8151 (ug/L)				
Picloram	S	SA		
Dicamba	S	SA		
2,4,5-TP (Silvex)	S	SA		
2,4-D	S	SA		
EPA METHOD 8081 (ug/L)	S	SA		
EPA METHOD 8082 (ug/L)	S	SA		

* MCL definitions: a = action level, not an MCL; s = secondary MCL

NA = Not enough sample available for analysis

NR = Analysis Not Requested

ND = Analyte Not Detected

J = Estimated Quantity. Anlyte present, but less than the practical qu

NS= Sample Not Collected (Dry Well-BSB-A5)

SA = Sample Not Taken

TABLE I: ANALYTICAL DATA FOR GROUNDWATER SAMPLES, OLD SILVER BOW COUNTY LANDFILL
DATE SAMPLED: September 1, 2015

SAMPLE NUMBER WELL ANALYTE (units):	BSB-GW-O1 MBMG-2	BSB-GW-O2 BSB-A1	BSB-GW-O3 BSB-A5	BSB-GW-O4 BSB-A6-R	BSB-GW-O5 CLK-1	BSB-GW-O6 CLK-2	BSB-GW-07 BSB-A6R DUPE	BSB-GW-08 CLK-2 DUPE	BSB-GW-O9 Field Blank Trip Blank	GW PROTECTION STANDARDS	
										USEPA MCL*	MONTANA HHS
DISSOLVED METALS (mg/L)											
Antimony	< 0.0005	SA	SA	SA	(Pace 0.00018 J)< 0.0005	(Pace 0.00016 J)< 0.0005	SA	< 0.0005	< 0.0005	0.006	0.014
Arsenic	0.0012	SA	SA	SA	0.150	0.0011	SA	0.0011	< 0.0005	0.05	0.01
Barium	0.15	SA	SA	SA	0.021	0.017	SA	0.017	< 0.0003	2	2
Beryllium	< 0.00020	SA	SA	SA	0.00032	< 0.0002	SA	< 0.0002	< 0.0002	0.004	0.004
Cadmium	< 0.00008	SA	SA	SA	0.012	0.00120	SA	0.0012	< 0.00008	0.005	0.005
Chromium	(Pace 0.00044 J)< 0.0005	SA	SA	SA	(Pace 0.00030 J)< 0.0005	0.0065	SA	0.00056	(Pace 0.00030 J)< 0.0005	0.1	0.1
Cobalt	< 0.0005	SA	SA	SA	0.04	0.0008	SA	(Pace 0.00037 J)< 0.00050	< 0.0005	- - -	- - -
Copper	0.0033	SA	SA	SA	0.0015	0.0021	SA	0.0021	(Pace 0.00041 J)< 0.001	1.3 (a)	1.3
Iron	< 0.05	SA	SA	SA	15.2	< 0.050	SA	< 0.050	< 0.050	0.3(s)	0.3
Lead	< 0.00010	SA	SA	SA	< 0.00010	Pace 0.000052 J)< 0.00010	SA	< 0.00010	< 0.0001	0.015 (a)	0.015
Mercury	< 0.0002	SA	SA	SA	Pace 0.000033 J)< 0.0002	Pace 0.000061 J)< 0.0002	SA	(Pace 0.000057 J)< 0.0002	(Pace 0.000036 J)< 0.002	0.002	0.002
Nickel	(Pace 0.00020 J)< 0.0005	SA	SA	SA	0.034	0.0490	SA	0.0490	< 0.0005	0.1	0.1
Selenium	0.00058	SA	SA	SA	< 0.0005	(Pace 0.00021 J)< 0.0005	SA	< 0.0005	< 0.0005	0.05	0.05
Silver	NR	SA	SA	SA	NR	NR	SA	NR	NR	0.1	0.1
Thallium	NR	SA	SA	SA	NR	NR	SA	NR	NR	0.002	0.002
Tin	NR	SA	SA	SA	NR	NR	SA	NR	NR	-	
Vanadium	0.0070	SA	SA	SA	(Pace 0.00042 J)< 0.001	0.0025	SA	0.0024	< 0.001	- - -	- - -
Zinc	< 0.0050	SA	SA	SA	41.9	0.710	SA	0.730	0.0059	5	2
INORGANICS (mg/L)											
Chloride	60	20	32	79	33	65	SA	65	< 1.0	250	- - -
COD	< 50.0	< 50.0	< 50.0	448	NR	NR	SA	NR	NR	- - -	- - -
Conductivity (umhos/cm)	886	554	1640	3190	1530	1650	SA	1660	2.2	- - -	- - -
Cyanide	(Pace 0.0056 J)< 0.010	(Pace 0.0061 J)< 0.010	Pace 0.0095 J)< 0.010	11.600	NR	NR	SA	NR	NR	- - -	0.2
Nitrate\Nitrite - N	2.9	0.28	0.4	0.38	NR	NR	SA	NR	NR	10	10
pH	7.1	7.2	6.2	5.2	6.0	6.4	SA	6.4	7.9		
Sulfate	188	106.0	685	2050	770	757	SA	775	< 2.5	250	- - -
Sulfide	NR	NR	NR	NR	NR	NR	SA	NR	NR		
EPA METHOD 8260 (ug/L)											
Acetone	< 20.0	< 20.0	< 20.0	< 20.0	SA	SA	< 20.0	SA	< 20.0	- - -	- - -
Benzene	< 1.0	< 1.0	< 1.0	(Pace 0.53 J)< 1.0	SA	SA	(Pace 0.55 J)< 1.0	SA	< 1.0	5	5
Carbon Disulfide	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	- - -	- - -
Chloroethane	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	- - -	- - -
Chloroform	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	- - -	70
Chlormethane	< 4.0	< 4.0	< 4.0	< 4.0	SA	SA	< 4.0	SA	< 4.0	- - -	- - -
1,4-Dichlorobenzene	< 1.0	< 1.0	< 1.0	1.5	SA	SA	1.6	SA	< 1.0	75	75
Dichlorodiflouromethane	< 1.0	< 1.0	< 1.0	1.6	SA	SA	1.5	SA	< 1.0	- - -	1000
1,1-Dichloroethane	< 1.0	< 1.0	< 1.0	1.1	SA	SA	1.1	SA	< 1.0	- - -	- - -
1,2-Dichloroethane	< 1.0	< 1.0	(Pace 0.37 J)< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	5	4
cis-1,2-Dichloroethene	< 1.0	(Pace 0.62 J)< 1.0	2.4	3.6	SA	SA	3.4	SA	< 1.0	70	70
trans-1,2-Dichloroethene	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	100	100
Ethylbenzene	< 1.0	(Pace 0.24 J)< 1.0	< 1.0	(Pace 0.32 J)< 1.0	SA	SA	(Pace 0.33 J)< 1.0	SA	< 1.0		
1,2-Dichloropropane	< 4.0	< 4.0	< 4.0	(Pace 0.55 J)< 4.0	SA	SA	(Pace 0.56 J)< 4.0	SA	< 4.0	5	5
4-Isopropyltoluene	NR	NR	NR	NR	SA	SA	NR	SA	NR	- - -	- - -
Methylene Chloride	< 4.0	< 4.0	< 4.0	< 4.0	SA	SA	< 4.0	SA	< 4.0	5	30
Naphthalene	NR	NR	NR	NR	SA	SA	NR	SA	NR	- - -	100
Tetrachloroethene	< 1.0	(Pace 0.29 J)< 1.0	(Pace 0.0.89 J)< 1.0	(Pace 0.20 J)< 1.0	SA	SA	< 1.0	SA	< 1.0	5	5
Trichloroethene	< 0.4	(Pace 0.24 J)< 0.4	0.5	(Pace 0.26 J)< 0.4	SA	SA	(Pace 0.35 J)< 0.4	SA	< 0.4	5	5
1,2,4-Trimethylbenzene	NR	NR	NR	NR	SA	SA	NR	SA	NR	- - -	- - -
Vinyl Chloride	< 0.4	< 0.4	< 0.4	1.9	SA	SA	1.9	SA	< 0.4	2	0.2
EPA METHOD 8270 (ug/L)											
bis(2-ethylhexyl)Phthalate	SA	SA	SA	SA	SA	SA	SA	SA	SA	6	6
EPA METHOD 8151 (ug/L)											
Picloram	SA	SA	SA	SA	SA	SA	SA	SA	SA		
Dicamba	SA	SA	SA	SA	SA	SA	SA	SA	SA		
2,4,5-TP (Silvex)	SA	SA	SA	SA	SA	SA	SA	SA	SA		
2,4-D	SA	SA	SA	SA	SA	SA	SA	SA	SA		
EPA METHOD 8081 (ug/L)	SA	SA	SA	SA	SA	SA	SA	SA	SA		
EPA METHOD 8082 (ug/L)	SA	SA	SA	SA	SA	SA	SA	SA	SA		

* MCL definitions: a = action level, not an MCL; s = secondary MCL (aesthetics)

NA = Not enough sample available for analysis

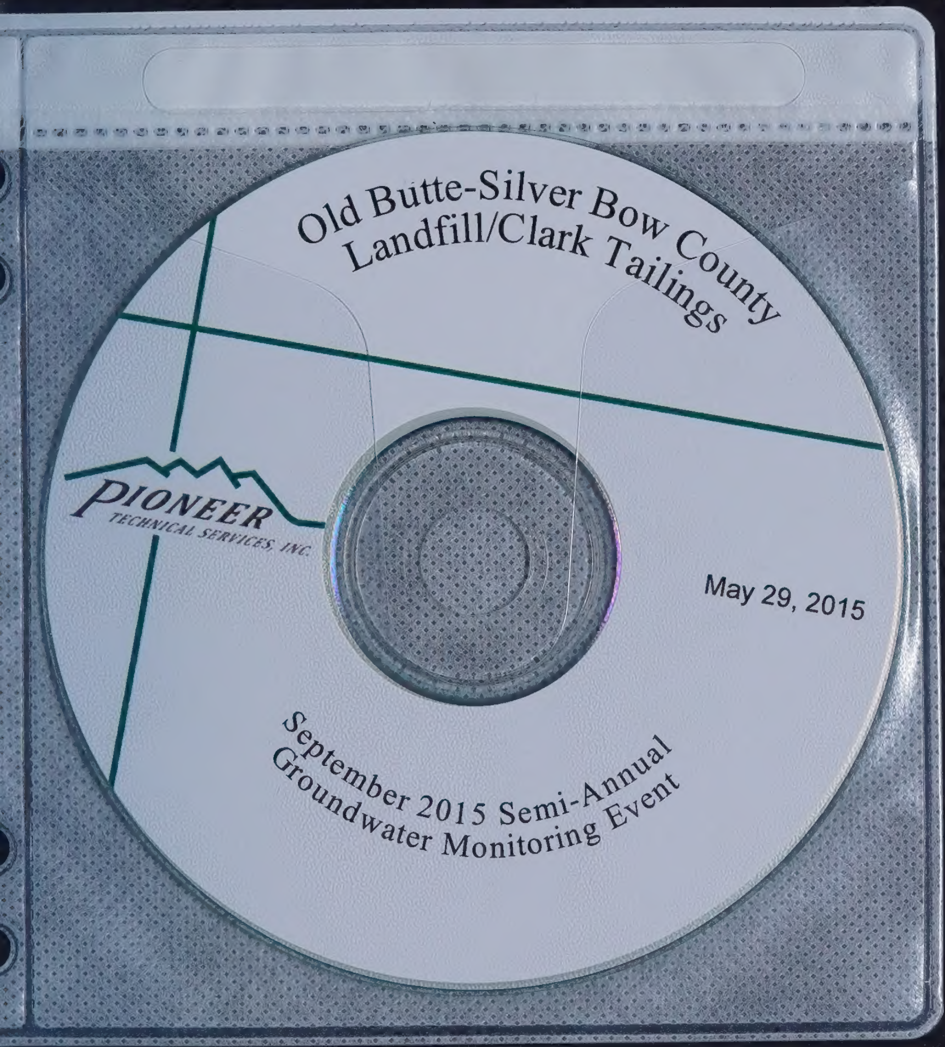
NR = Analysis Not Requested

ND = Analyte Not Detected

J = Estimated Quantity. Anlyte present, but less than the practical quantitation limit (PQL).

NS= Sample Not Collected (Dry Well-BSB-A5)

SA = Sample Not Taken



Old Butte-Silver Bow County
Landfill/Clark Tailings

PIONEER
TECHNICAL SERVICES, INC.

May 29, 2015

September 2015 Semi-Annual
Groundwater Monitoring Event

Well I.D.	Sample #	Volume ged (gal)	Comments
MBMG-2	BSB-GW-01	5.92	
BSB-A1	BSB-GW-02	7.66	
BSB-A5	BSB-GW-03	1.65	
BSB-A6-R	BSB-GW-04	2.64	
BSB-A6-R	BSB-GW-07	2.64	VOC Duplicate
CLK-1	BSB-GW-05	7.20	
CLK-2	BSB-GW-06	5.10	
CLK-2	BSB-GW-08	5.70	Raw, DM Duplicate
Blank	BSB-GW-09	NA	Field Blank

KEY:

NA	Measurement No
SA	Sample Not Take

Old Butte-Silver Bow County Landfill
GROUNDWATER FIELD CHEMISTRY RESULTS AND PURGE VOLUMES
September-15

Well I.D.	Sample #	Depth (ft)	Radius (ft)	S.W.L. (ft)	TOC Elevation (ft)	Groundwater Elevation (ft)	pH. (su)	E.h. (mV)	S.C. (uS/cm)	T (Celsius)	Sample Time	H2O Volume Req'd (gal)	H2O Volume Purged (gal)	Comments
MBMG-2	BSB-GW-01	23.25	0.17	14.19	5529.88	5515.69	7.34	-85.2	1364	10.5	10:13	4.53	5.92	
BSB-A1	BSB-GW-02	57.00	0.17	36.88	5531.50	5494.62	7.27	-125.1	905	NA	12:38	10.06	7.66	
BSB-A5	BSB-GW-03	45.60	0.17	43.00	5524.62	5481.62	6.17	-208.1	2605	10.90	15:40	1.30	1.65	
BSB-A6-R	BSB-GW-04	59.75	0.17	51.75	5554.41	5502.66	6.18	-83.4	6.1	18.0	15:00	4.00	2.64	
BSB-A6-R	BSB-GW-07	59.75	0.17	51.75	5554.41	5502.66	6.18	-83.4	6.1	18.0	15:00	4.00	2.64	VOC Duplicate
CLK-1	BSB-GW-05	19.00	0.17	4.90	5478.73	5473.83	6.47	-202.9	983	10.1	10:22	7.05	7.20	
CLK-2	BSB-GW-06	46.90	0.17	40.61	5511.17	5470.56	6.47	-24.2	1018	9.5	11:17	3.15	5.10	
CLK-2	BSB-GW-08	46.90	0.17	40.61	5511.17	5470.56	6.47	-24.2	1018	9.5	11:19	3:15	5.70	Raw, DM Duplicate
Blank	BSB-GW-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	12:30	NA	NA	Field Blank

KEY:

NA	Measurement Not Taken
SA	Sample Not Taken

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: BSB - old Landfill
WELL/STATION MGMB-2
DATE 9/1/15
TIME 9:18
SAMPLERS DR, CD
WEATHER CONDITIONS Sunny, 60°F
PHOTO: Yes ______ No X
ROLL# N/A
NUMBER N/A

PURGE DATA:

PURGE METHOD 120 volt Grundfoss
START PURGING ________
PURGE RATE ________ GPM
RATE CHANGE 1) Time ______ Rate ________
2) Time ______ Rate ________
SAMPLE TIME ________

WELL DEPTH 23.2 Feet
DEPTH TO WATER 14.19 Feet
COLUMN DEPTH 9.01 Feet
CASING DIAMETER 2 Inch
PUMP SET AT ________ Feet
3 WELL VOLUMES 4.505 Gallons
TOTAL PURGE VOLUME ________ Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-01-090115	500mL			
				See log Book

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
956		10.3	7.36	1332	-47.4 mV	3.1
1000		10.2	7.35	1336	-58.1 mv	3.0
1005		10.4	7.34	1351	-76.7 mv	2.9
1007		10.4	7.34	1354	-82.1	2.9
1009		10.4	7.34	1355	-83.3	2.9
1011		10.4	7.34	1358	-83.9	2.9
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1018		10.5	7.34	1364	-85.2	2.9

FIELD REMARKS: ________

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Clark tailings
WELL/STATION CLK-2
DATE 9-2-15
TIME 10:45
SAMPLERS DR, LD
WEATHER CONDITIONS Sunny 60°F
PHOTO: Yes ____ No X
ROLL# ____
NUMBER ____

PURGE DATA:

PURGE METHOD 12 volt Sub
START PURGING 11:00
PURGE RATE ____ GPM
RATE CHANGE 1) Time ____ Rate ____
2) Time ____ Rate ____
SAMPLE TIME ____

WELL DEPTH 46.9 Feet
DEPTH TO WATER 40.61 Feet
COLUMN DEPTH 6.29 Feet
CASING DIAMETER 2 Inch
PUMP SET AT ____ Feet
3 WELL VOLUMES 3.145 Gallons
TOTAL PURGE VOLUME ____ Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-06-090215	250	X	HNO3	Dissloved metal
BSB-GW-08-090215	500		Raw	pH, SC, chloride, SO4

FIELD PARAMATERS: Also collect BSB-GW-08-090215 Duplicate

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1107		9.9	6.46	1026	-30.4	1.3
1109		9.8	6.46	1024	-29.6	1.3
1111		9.7	6.47	1021	-26.0	1.3
1113		9.6	6.47	1020	-27.9	1.3
1115		9.5	6.47	1017	-27.8	1.4
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1117		9.5	6.47	1018	-24.2	1.4

FIELD REMARKS: ____

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Clark Tailings
WELL/STATION clk-1 DATE 9/2/15 TIME 945
SAMPLERS DR, CO WEATHER CONDITIONS Cool 40°
PHOTO: Yes ______ No ✓ ROLL# — NUMBER —

PURGE DATA:

PURGE METHOD	12 Volt SUB	WELL DEPTH	19. Feet
START PURGING	1005	DEPTH TO WATER	4.90 Feet
PURGE RATE	0.75/0.50 GPM	COLUMN DEPTH	14.1 Feet
RATE CHANGE	1) Time ______ Rate ______	CASING DIAMETER	2 Inch
	2) Time ______ Rate ______	PUMP SET AT	— Feet
		3 WELL VOLUMES	7.05 Gallons
SAMPLE TIME	______	TOTAL PURGE VOLUME	______ Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSS-GW-05-090215	250	✓	HNO3	
	500		Raw	

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1012		10.1	6.46	977	-142.7	0.1
1014		10.1	6.47	976	-156.9	0.1
1016		10.1	6.47	977	-167.6	0.1
1018		10.1	6.47	978	-183.3	0.0
1020	7.05	10.2	6.47	981	-194.0	0.0
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1022	7.20	10.1	6.47	983	-202.9	0.0

FIELD REMARKS: ______________________________

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: BSB-old Landfill
WELL/STATION BSB-A1
DATE 9-1-15
TIME 9:34
SAMPLERS DR, LD
WEATHER CONDITIONS Sunny 60°F
PHOTO: Yes ______ No X
ROLL# NA
NUMBER NA

PURGE DATA:

PURGE METHOD 120 volt Grundfos
START PURGING ____________
PURGE RATE ________ GPM
RATE CHANGE 1) Time ______ Rate ________
2) Time ______ Rate ________
SAMPLE TIME ____________

WELL DEPTH 52.53' Feet
DEPTH TO WATER 36.88 Feet
COLUMN DEPTH 15.65 Feet
CASING DIAMETER 2 Inch
PUMP SET AT ______ Feet
3 WELL VOLUMES 7.825 Gallons
TOTAL PURGE VOLUME ______ Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-02-090115				See Log Book

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1228	7.00		7.28	894	-123.2 mv	2.3
1230			7.27	895	-122.6 mv	2.2
1232			7.26	898	-124.7 mv	2.2
1234			7.27	904	-124.9	2.2
1236			7.27	905	-125.1	2.2
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1238			7.27	905	-125.1	2.1

FIELD REMARKS: ____________________________

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: BSB-old landfill

WELL/STATION BSB-AGR

DATE 9/1/15

TIME 1300

SAMPLERS DR, LD

WEATHER CONDITIONS Sunny, 70's w/wind 10 mph

PHOTO: Yes ______ No x

ROLL# N/A

NUMBER X

PURGE DATA:

PURGE METHOD 120 volt grundfoss

START PURGING 1,20

PURGE RATE ______ GPM

RATE CHANGE 1) Time ______ Rate ______

2) Time ______ Rate ______

SAMPLE TIME ______

WELL DEPTH 59.75 Feet

DEPTH TO WATER 51.75 Feet

COLUMN DEPTH 8.00 Feet

CASING DIAMETER 2 Inch

PUMP SET AT ______ Feet

3 WELL VOLUMES 4 Gallons

TOTAL PURGE VOLUME ______ Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-04-090115				
				See Log Book

FIELD PARAMATERS:

Also BSB-GW-07-090115 VOC Duplicate

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
14:50		18C	6.18	5.96	-88.8	0.4
14:52		18.2	~~5.97~~ 6.18	5.97	-88.7	0.4
14:54		18.3	6.18	5.98	-87.8	0.4
14:56		18.3	6.18	5.99	-85.8	0.4
14:58		18.4	6.18	6.00	-84.2	0.4
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
15:00		18.0	6.18	6.1	-83.4	.4

FIELD REMARKS: ______

Pioneer Technical Services

9/1/15 BSB old Landfill

9:18 Arrive @ MGMB-2

TD = 23.2'
DTW: 14.19'
Column Depth: 9.01'
Case Ø: 2"
3 well volumes: 4.505

9:20 Calibrate Meters
pH 4.01 - 4.01
7.00 - 7.05 Slp: 96.8%
10.01 - 10.07

SC = 1413 @ 12.5°C

ORP - 417 mV @ 12.2°C
DO 100% Sat

0945 Begin purging MGMB-2 @ 800 mL/min.

DL ~~1005~~ 956 Begin collecting Field parameters for BSB-GW-01-090115

1013 Collect BSB-GW-01-090115

1 - 500 mL - Raw HDPE pH, SC, SO_4, Chloride
1 - 250 mL - NaOH HDPE Cyanide
1 - 250 mL - HNO_3 HDPE. Dissolved Metals
1 - 250 mL - H_2SO_4 HDPE. NO_2, NO_3 - COD
3 - 40 mL HCL - Glass VOC's

1016 Stop purging MGMB-2 pull pump and Decon pump.

1035 Arrive @ BSB-A1

TD = 52.53'
DTW = 36.88'
Column Depth = 15.65'
Case Ø: 2"
3 well volumes: 7.825 gallon.
pump set @ = 48'

1050 Begin purging BSB-A1 @ 250 mL/min controller set @ 77 Hz

1145 Arrive @ BSB-A5

TD= 45.00'
DTW= 43.00'
3 Well Volumes 1.50 gallons
Case Ø = 2"

Bailed 1.65 gallons from BSB-A5 using Dedicated Bailer.

1158 Arrive Back @ BSB-A1

1208 Begin collecting field parameters

1238 Collect BSB-GW-02-090115
1- 500mL Raw HDPE, PH, SC, SO_4, Chloride
1- 250mL H_2SO_4, HDPE, COD, NO_2, NO_3
1- 250mL NaOH HDPE, Cyanide
3- 40mL HCL Glass, VOC'S

1242 Stop purging BSB-A1 pull grundfos pump and Decon.

1300 Arrive @ BSB-A6R

TD= 59.75'
DTW= 51.75'
Column Depth = 8.00'
Case Ø = 2"
3 well Volumes = 4.00 gallons

1320 Begin purging BSB-A6R @ 1320 @ 100 mL/min

1450 Begin collecting Field parameters fur BSB A6R

1500 Collect BSB-GW-04-090115
1- 500mL Raw HDPE PH, SC, SO_4, chloride
1- 250mL H_2SO_4 HDPE COD, NO_2, NO_3
1- 250mL NaOH HDPE cyanide
3- 40mL HCL Glass VOC'S

1500 Collect BSB-GW-07-090115
3- 40mL HCL Glass VOC'S
Duplicate of BSB-GW-04-090115

1512 Stop purging BSB-A6R pull pump and decon.

1525 Arrive Back @ BSB-A5

1528 Bail water into small container for field parameters.

1540 collect BSB-GW-03-090115

1-500mL Raw HDPE - PH, SC, SO4, Chloride
1-250mL H2SO4 HDPE - COD, NO2, NO3
1-250mL NaOH HDPE - cyanide
3-40mL HCl glass - VOC's

1600 PTS Sample Crew - DJ Ruiz & L. Dudding off site all purge water contained in Jugs and Dumped at LAO treatment facility all samples collected were placed in sample fridge at LAO.

9/1/15

9/2/15 clark tailings

930 Calibrate meters at LAO

pH 4.01 - 4.01
7.00 - 7.06 Slp = 95.7%
10.01 - 10.10

Cond - 1413 @ 12°C - 1028

ORP 430 MV @ 12.3°C

DO 100% Saturation cal.

945 Arrive on site @ CLK-1
TD = 19.0
DTW = 4.90'
Case Ø = 2"
Column Depth = 14.1'
3 Well Volumes = 7.05 gallons

Crew Members
DJ Ruiz
Logan Dudding

1005 Start purging CLK-2 @ 0.75 gpm

40.61

1012 Begin Collecting field parameters purge Rate reduced to 0.50 gpm.

1022 Collect BSB-GW-05-090215
1-500mL Raw HDPE - PH, SC, Chloride, SO4
1-250mL HNO3 HDPE - Dissolved metals

1025 Stop purging CIK-1 pull pump & Decon.

1040 Arrive @ CIK-2

TD= 46.90'
DTW= 40.61'
Column Depth: 6.29'
Case Ø: 2"
3 well volumes 3.145 gallons

1100 Begin purging CIK-2 @ 0.3 gpm

1107 Begin Collecting Field Parameters for CIK-2

11:17 Collect BSB-GW-06-090215
1-500mL - Raw HDPE - PH, SC, chloride, SO4
1-250mL - HNO3 HDPE - Dissolved metals

1119 Collect BSB-GW-08-090215
Duplicate of BSB-GW-06-090215

1125 Stop purging CIK-2 pull pump and decon.

1140 PTS Sample crew off site

1230 Collect BSB-GW-09-090215
DI Blank.

1300 pack Coolers w/ Ice to ship with pace.

Final Field parameters

CIK 2

1117	Temp °C	PH	SC	EH	DO
1117	9.5°C	6.47	1018	-24.2mV	1.4 mg/L

CIK 1

Time	Temp	PH	SC	EH	DO
1022	10.1°C	6.47	983	-200.9mV	0.0 mg/L

BSB - A5

Time	Temp	PH	SC	EH	DO
15:40	10.9°c	6.17	2605	-208.1 mv	3.6 mg/L

BSB - A1

Time	PH	SC	EH	DO
1238	7.27	905	-125.1 mv	2.1 mg/L

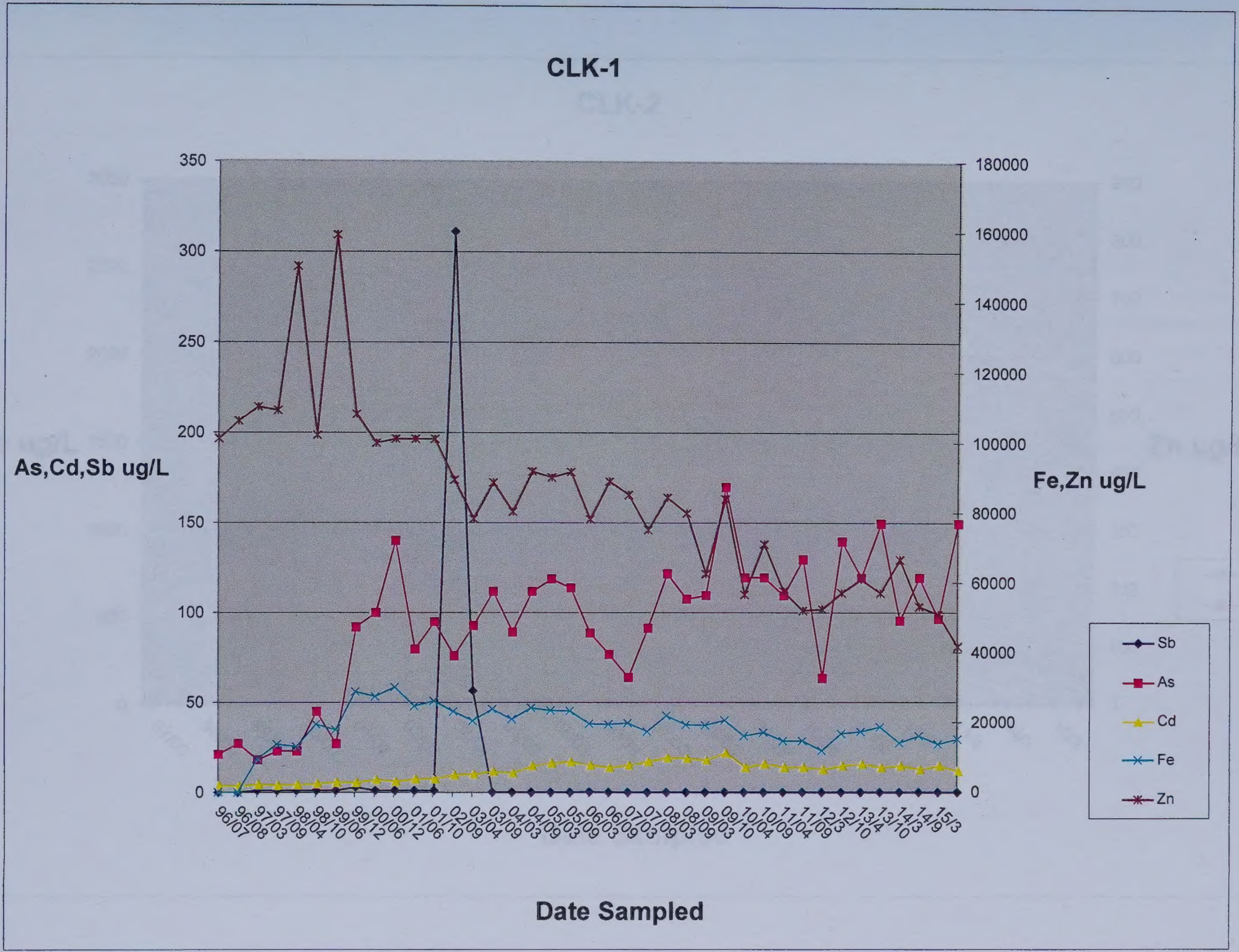
BSB A6R

Time	Temp	PH	SC	EH	DO
1560	18.6	6.18	601	-83.4	0.40 mg/L

MGMB - 2

Time	PH	Temp	SC	EH	DO
10:13	7.34	10.5°c	1364	-85.2	2.9 mg/L

9-2-15

CLK-1
As,Cd,Sb ug/L
Fe,Zn ug/L
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300
250
200
150
100
50
0
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
96/07
96/08
97/03
97/09
98/04
98/10
99/06
99/12
00/06
00/12
01/06
01/10
02/09
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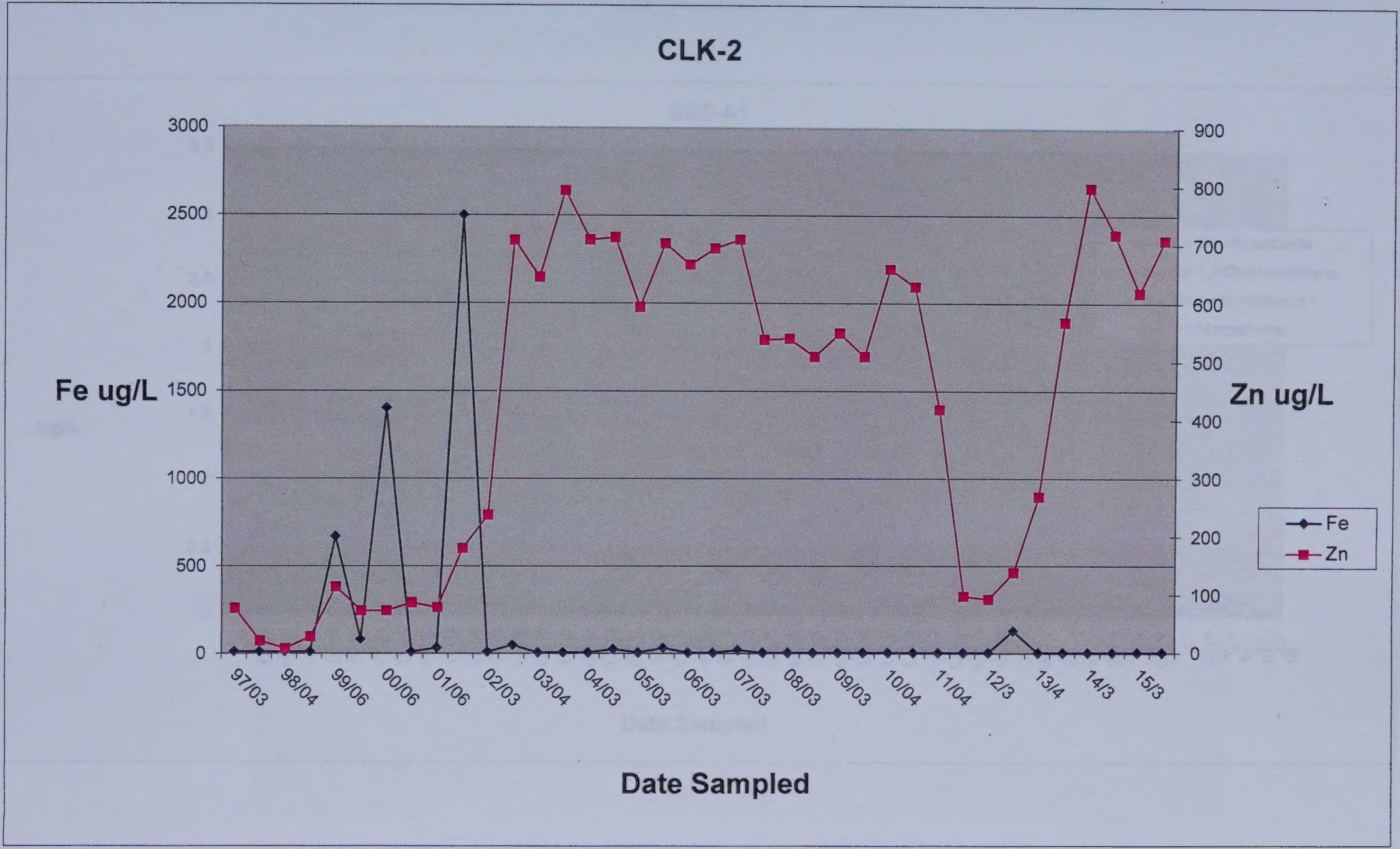
Date Sampled
Sb
As
Cd
Fe
Zn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2000
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1000
500
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Zn ug/L
900
800
700
600
500
400
300
200
100
0
97/03
98/04
99/06
00/06
01/06
02/03
03/04
04/03
05/03
06/03
07/03
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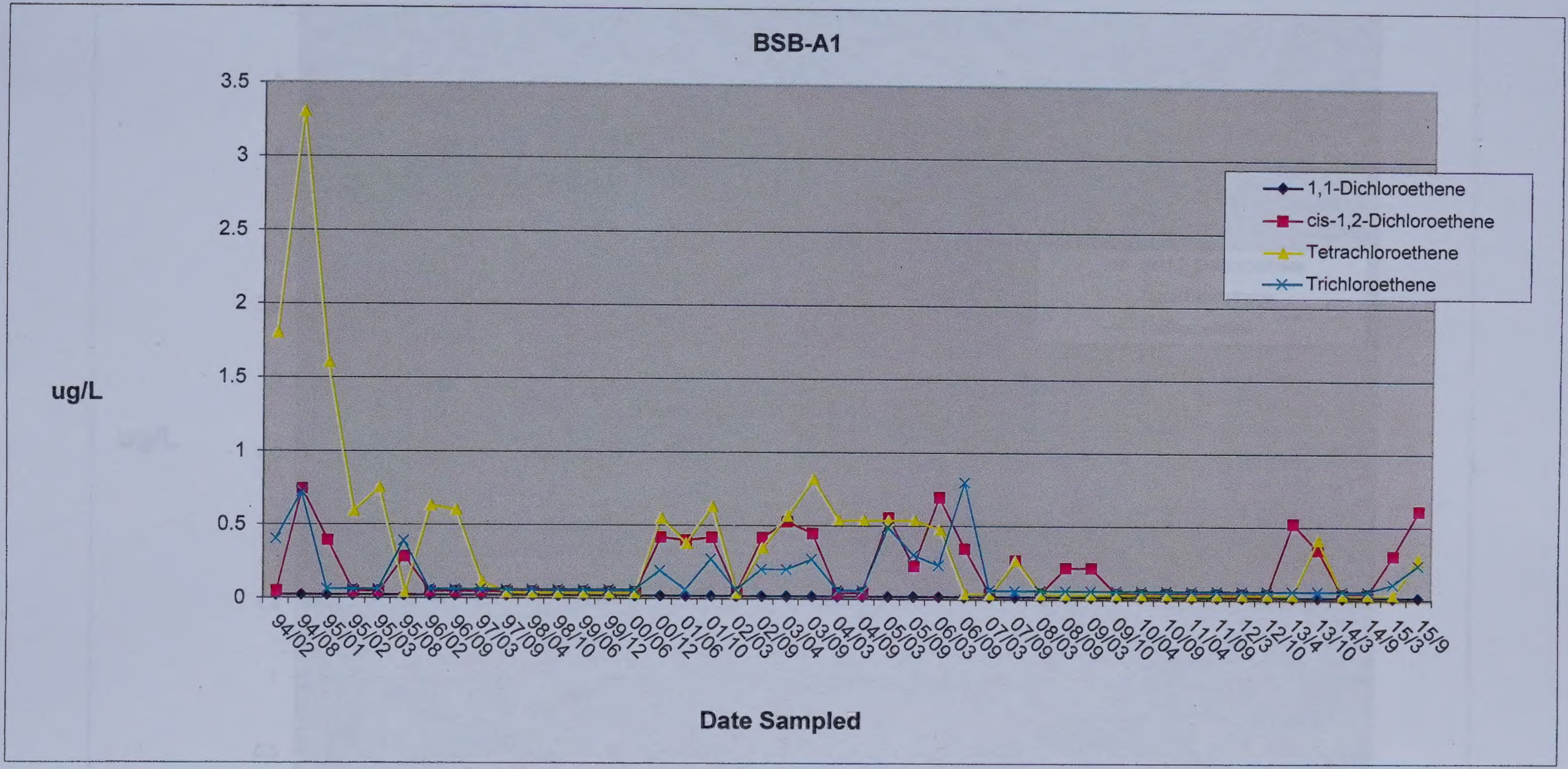
11/04
12/3
13/4
14/3
15/3
Fe
Zn
Date Sampled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ug/L
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3
2.5
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1.5
1
0.5
0
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cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene
94/02
94/08
95/01
95/02
95/03
95/08
96/02
96/09
97/03
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98/04
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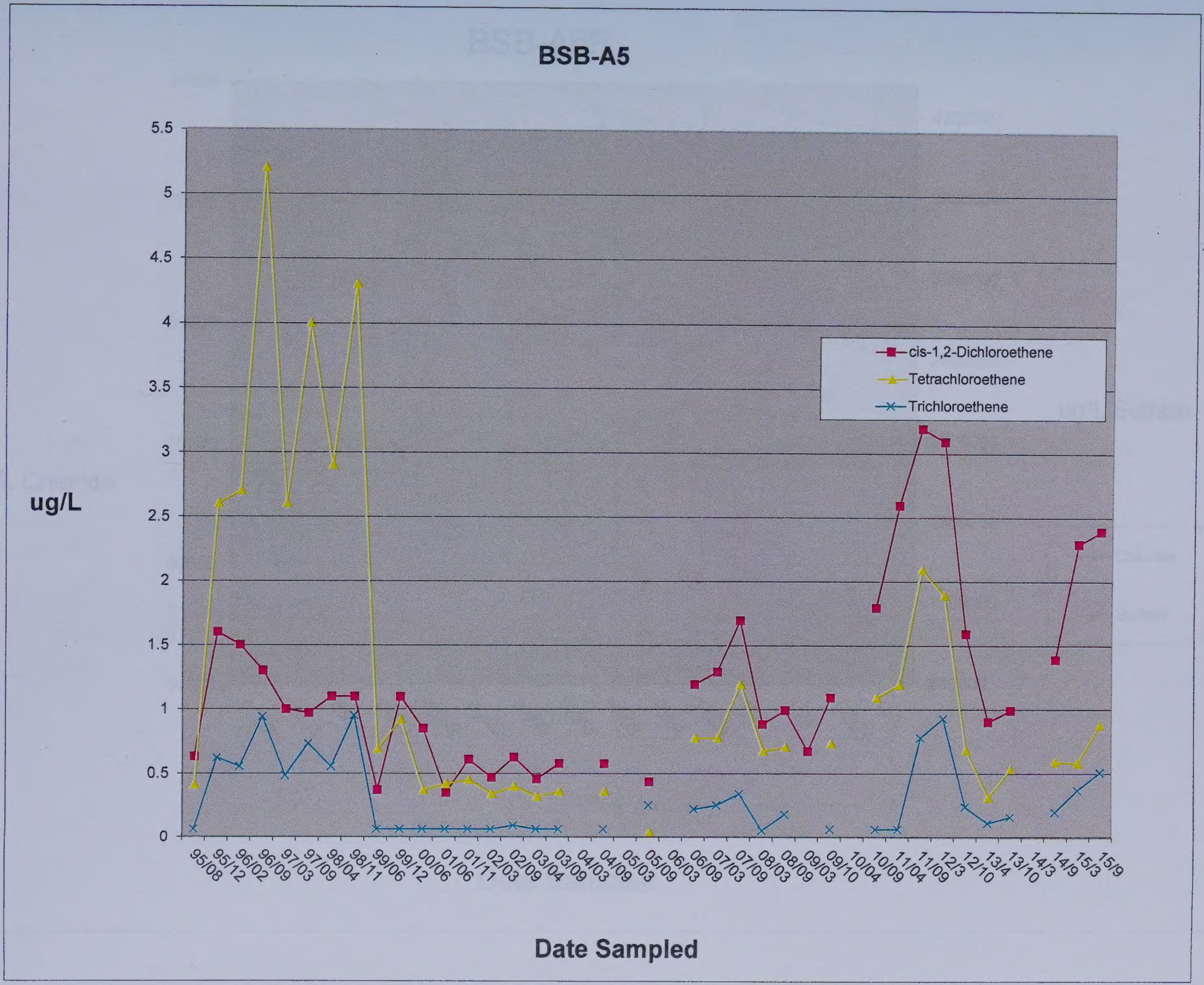
15/9
Date Sampled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3
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Tetrachloroethene
Trichloroethene
95/08
95/12
96/02
96/09
97/03
97/09
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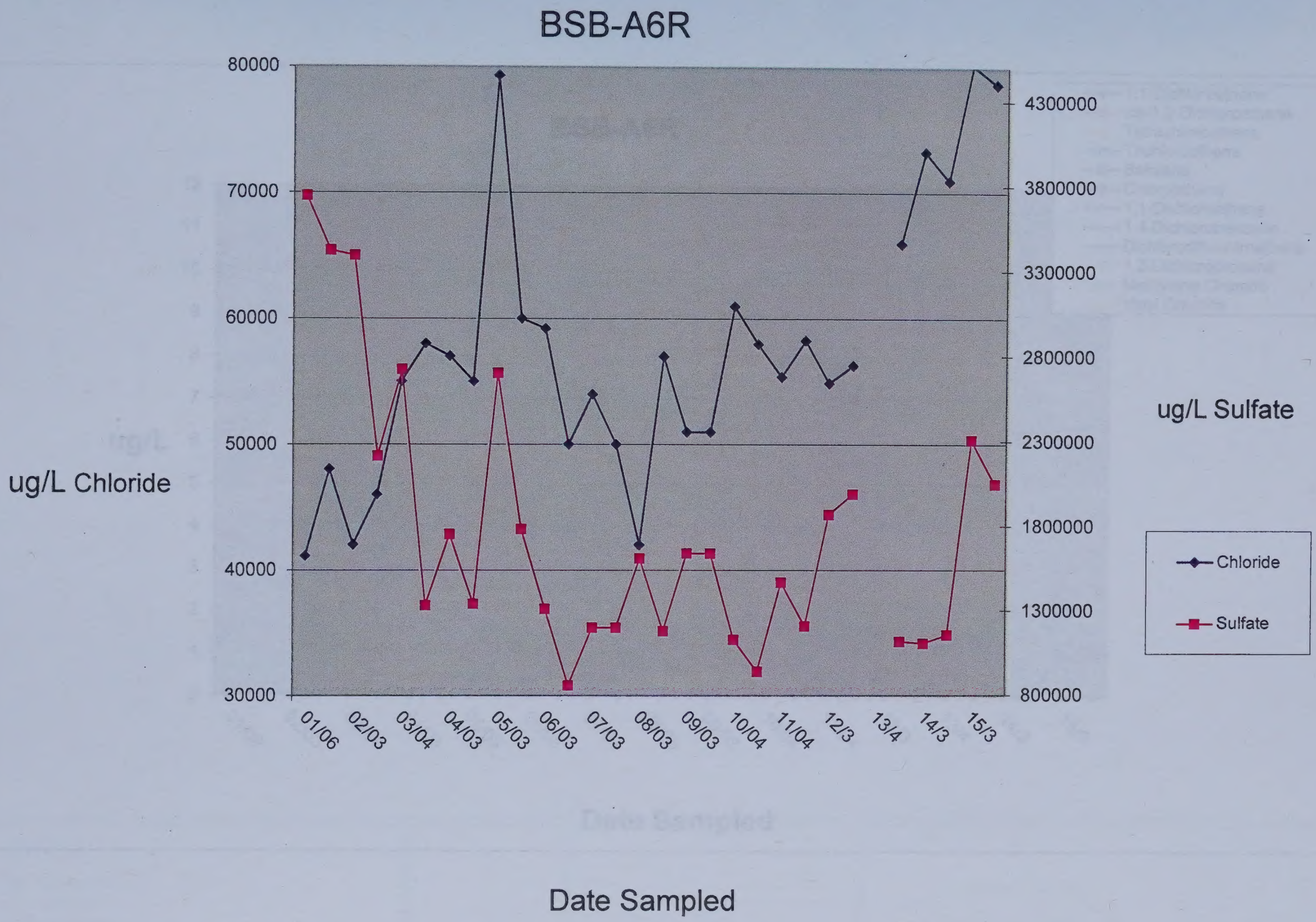
15/9
Date Sampled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60000
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30000
ug/L Sulfate
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2300000
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800000
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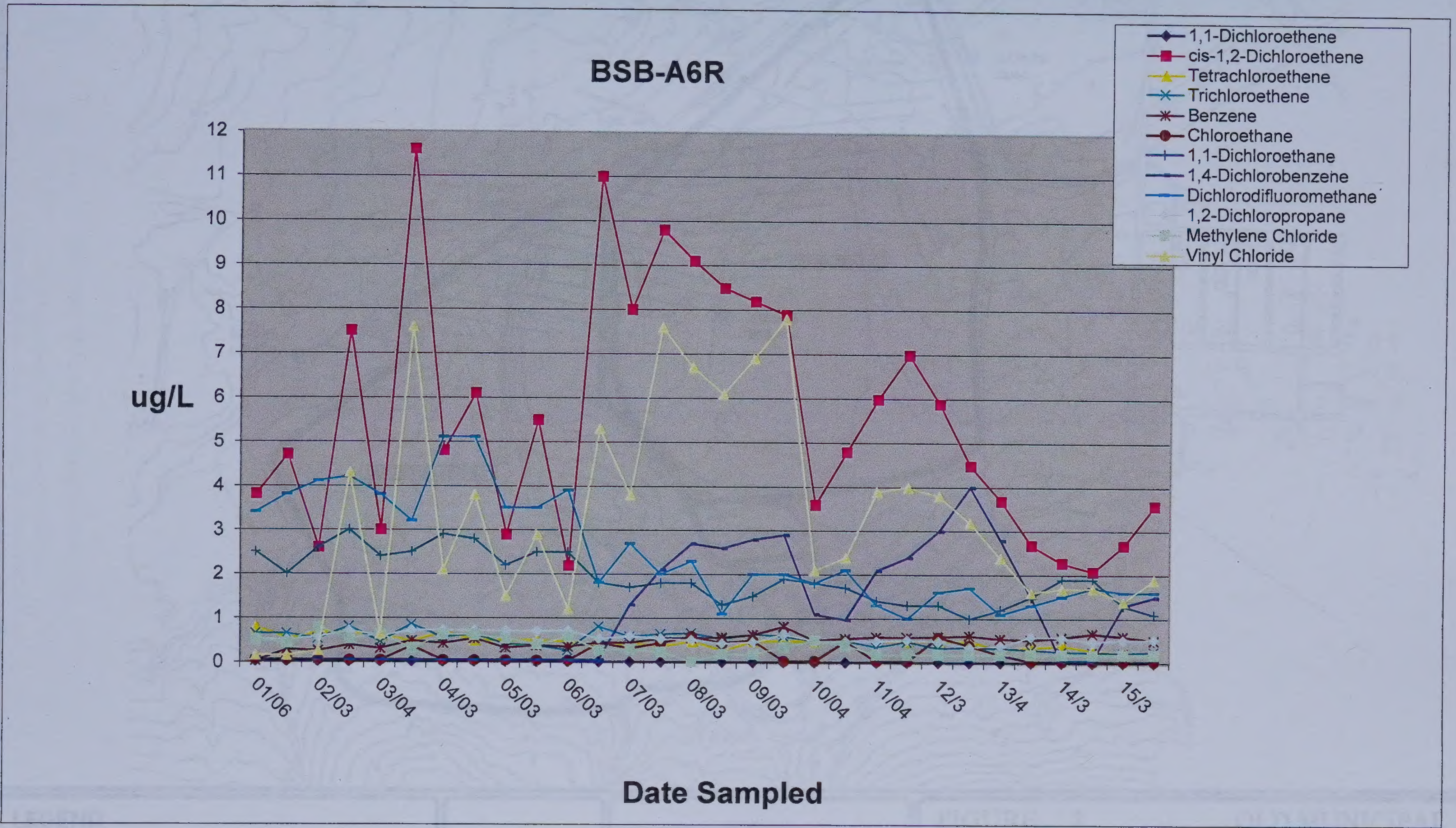
03/04
04/03
05/03
06/03
07/03
08/03
09/03
10/04
11/04
12/3
13/4
14/3
15/3
Date Sampled
Chloride
Sulfate


BSB-A6R
ug/L
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10
9
8
7
6
5
4
3
2
1
0
01/06
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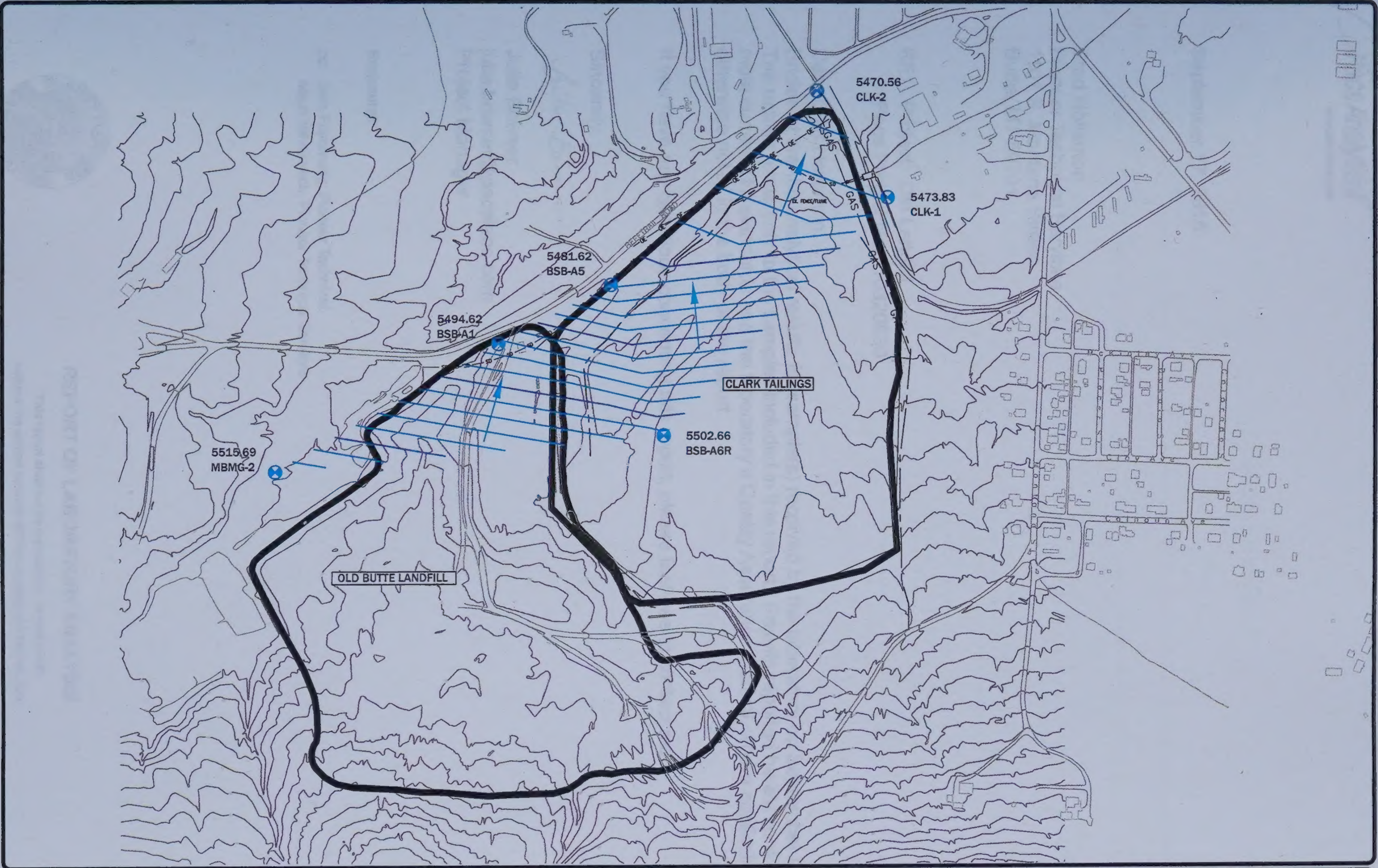
04/03
05/03
06/03
07/03
08/03
09/03
10/04
11/04
12/3
13/4
14/3
15/3
Date Sampled
1,1-Dichloroethene
cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene
Benzene
Chloroethane
1,1-Dichloroethane
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,2-Dichloropropane
Methylene Chloride
Vinyl Chloride


5470.56
CLK-2
GAS
5473.83
CLK-1
GAS
5481.62
BSB-A5
5494.62
BSB-A1
CLARK TAILINGS
5502.66
BSB-A6R
5515.69
MBMG-2
OLD BUTTE LANDFILL

LEGEND

CLK-1 ● MONITORING WELL

—— CONTOUR

CONTOUR INTERVAL= 10'

N

DISPLAYED AS:	
COORD SYS/ZONE:	NA
DATUM:	NA
UNITS:	FEET
SOURCE:	PIONEER

SCALE IN FEET

0 300 600

FIGURE 2

OLD MUNICIPAL LANDFILL SITE/CLARK TAILINGS FACILITY SEPTEMBER 2015

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

DATE: 10/30/15

9/30/2015 11:42:09 AM P:\BUTTE-SILVER BOW\BSB OLD LANDFILL\OLD LANDFILL\2015\OLDLNDFL-FG-PLN-002-15.DWG

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www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

September 17, 2015

Brad Hollamon
Pioneer Technical Services
1101 S. Montana Street
Butte, MT 59701

RE: Project: Old Landfill
Pace Project No.: 10320830

Dear Brad Hollamon:

Enclosed are the analytical results for sample(s) received by the laboratory on September 03, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Julie Bowser
julie.bowser@pacelabs.com
Project Manager

Enclosures

cc: Julie Flammang, Pioneer Technical
Mitch Mihailovich, Pioneer Technical Services

CERTIFICATIONS

Project: Old Landfill
Pace Project No.: 10320830

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

SAMPLE SUMMARY

Project: Old Landfill
Pace Project No.: 10320830

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10320830001	**BSB-GW-01-090115**	Water	09/01/15 10:13	09/03/15 10:00
10320830002	**BSB-GW-02-090115**	Water	09/01/15 12:38	09/03/15 10:00
10320830003	**BSB-GW-03-090115**	Water	09/01/15 15:40	09/03/15 10:00
10320830004	**BSB-GW-04-090115**	Water	09/01/15 15:00	09/03/15 10:00
10320830005	**BSB-GW-07-090115**	Water	09/01/15 15:00	09/03/15 10:00
10320830006	**Trip Blank**	Water	09/01/15 00:00	09/03/15 10:00

SAMPLE ANALYTE COUNT

Project: Old Landfill
Pace Project No.: 10320830

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10320830001	BSB-GW-01-090115	EPA 6020A	RJS	14	PASI-M
		EPA 7470A	LMW	1	PASI-M
		EPA 8260B	SH2	53	PASI-M
		EPA 120.1	EH2	1	PASI-M
		SM 4500-H+B	JFP	1	PASI-M
		EPA 410.4	KEO	1	PASI-M
		SM 4500-NO3 H	PH1	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10320830002	BSB-GW-02-090115	EPA 8260B	SH2	53	PASI-M
		EPA 120.1	EH2	1	PASI-M
		SM 4500-H+B	JFP	1	PASI-M
		EPA 410.4	KEO	1	PASI-M
		SM 4500-NO3 H	PH1	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10320830003	BSB-GW-03-090115	EPA 8260B	SH2	53	PASI-M
		EPA 120.1	EH2	1	PASI-M
		SM 4500-H+B	JFP	1	PASI-M
		EPA 410.4	KEO	1	PASI-M
		SM 4500-NO3 H	PH1	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10320830004	BSB-GW-04-090115	EPA 8260B	SH2	53	PASI-M
		EPA 120.1	EH2	1	PASI-M
		SM 4500-H+B	JFP	1	PASI-M
		EPA 410.4	KEO	1	PASI-M
		SM 4500-NO3 H	PH1	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10320830005	BSB-GW-07-090115	EPA 8260B	SH2	53	PASI-M
10320830006	Trip Blank	EPA 8260B	SH2	53	PASI-M

PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10320830

Method: **EPA 6020A**
Description: 6020A MET ICPMS, Dissolved
Client: Pioneer Technical
Date: September 17, 2015

General Information:
1 sample was analyzed for EPA 6020A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project:	Old Landfill
Pace Project No.:	10320830

Method: **EPA 7470A**
Description: 7470A Mercury, Dissolved
Client: Pioneer Technical
Date: September 17, 2015

General Information:
1 sample was analyzed for EPA 7470A. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10320830

Method: EPA 8260B
Description: 8260B MSV
Client: Pioneer Technical
Date: September 17, 2015

General Information:
6 samples were analyzed for EPA 8260B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: MSV/33055

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 2068248)
  - Iodomethane
- BSB-GW-01-090115 (Lab ID: 10320830001)
  - Iodomethane
- BSB-GW-02-090115 (Lab ID: 10320830002)
  - Iodomethane
- BSB-GW-03-090115 (Lab ID: 10320830003)
  - Iodomethane
- BSB-GW-04-090115 (Lab ID: 10320830004)
  - Iodomethane
- BSB-GW-07-090115 (Lab ID: 10320830005)
  - Iodomethane
- DUP (Lab ID: 2068251)
  - Iodomethane
- LCS (Lab ID: 2068249)
  - Iodomethane
- MS (Lab ID: 2068250)
  - Iodomethane
- Trip Blank (Lab ID: 10320830006)
  - Iodomethane

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

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PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10320830

Method: **EPA 8260B**
Description: 8260B MSV
Client: Pioneer Technical
Date: September 17, 2015

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/33055

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10320624022

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2068250)
  - Ethylbenzene
  - Vinyl chloride
  - cis-1,2-Dichloroethene
  - trans-1,2-Dichloroethene

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

QC Batch: MSV/33055

D6: The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.

- DUP (Lab ID: 2068251)
  - 1,1-Dichloroethane
  - cis-1,2-Dichloroethene

Additional Comments:

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PROJECT NARRATIVE

Project:	Old Landfill
Pace Project No.:	10320830

Method: **EPA 120.1**
Description: 120.1 Specific Conductance
Client: Pioneer Technical
Date: September 17, 2015

General Information:
4 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project:	Old Landfill
Pace Project No.:	10320830

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: Pioneer Technical
Date: September 17, 2015

General Information:
4 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA recommended holding time.
- BSB-GW-01-090115 (Lab ID: 10320830001)
- BSB-GW-02-090115 (Lab ID: 10320830002)
- BSB-GW-03-090115 (Lab ID: 10320830003)
- BSB-GW-04-090115 (Lab ID: 10320830004)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10320830

Method: **EPA 410.4**
Description: 410.4 COD
Client: Pioneer Technical
Date: September 17, 2015

General Information:
4 samples were analyzed for EPA 410.4. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 410.4 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10320830

Method: **SM 4500-NO3 H**
Description: SM4500NO3-H, NO2 + NO3 pres.
Client: Pioneer Technical
Date: September 17, 2015

General Information:
4 samples were analyzed for SM 4500-NO3 H. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/24693

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10320830002,10321532007

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2077975)
  - Nitrogen, NO2 plus NO3
- MSD (Lab ID: 2077976)
  - Nitrogen, NO2 plus NO3

Additional Comments:

PROJECT NARRATIVE

Project:	Old Landfill
Pace Project No.:	10320830

Method: **ASTM D516**
Description: ASTM D516 Sulfate Water
Client: Pioneer Technical
Date: September 17, 2015

General Information:
4 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/24700

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10320830001,10321856001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 2078890)
  - Sulfate
- MS (Lab ID: 2078892)
  - Sulfate
- MSD (Lab ID: 2078891)
  - Sulfate
- MSD (Lab ID: 2078893)
  - Sulfate

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10320830

Method: **SM 4500-Cl E**
Description: SM4500Cl-E Chloride
Client: Pioneer Technical
Date: September 17, 2015

General Information:
4 samples were analyzed for SM 4500-Cl E. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: WETA/24665

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 2076865)
    - Chloride
- MSD (Lab ID: 2076866)
    - Chloride

PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10320830

Method: **SM 4500-CN-E**
Description: SM4500CN-E Cyanide
Client: Pioneer Technical
Date: September 17, 2015

General Information:
4 samples were analyzed for SM 4500-CN-E. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with SM 4500-CN-E with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: BSB-GW-01-090115 **Lab ID: 10320830001** Collected: 09/01/15 10:13 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020A MET ICPMS, Dissolved	Analytical Method: EPA 6020A Preparation Method: EPA 3020								
Antimony, Dissolved	ND	mg/L	0.00050	0.00015	1	09/16/15 11:04	09/16/15 23:10	7440-36-0	
Arsenic, Dissolved	**0.0012**	mg/L	0.00050	0.00011	1	09/16/15 11:04	09/16/15 23:10	7440-38-2	
Barium, Dissolved	**0.15**	mg/L	0.00030	0.000081	1	09/16/15 11:04	09/16/15 23:10	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000067	1	09/16/15 11:04	09/16/15 23:10	7440-41-7	
Cadmium, Dissolved	ND	mg/L	0.000080	0.000024	1	09/16/15 11:04	09/16/15 23:10	7440-43-9	
Chromium, Dissolved	**0.00044J**	mg/L	0.00050	0.00017	1	09/16/15 11:04	09/16/15 23:10	7440-47-3	
Cobalt, Dissolved	ND	mg/L	0.00050	0.00013	1	09/16/15 11:04	09/16/15 23:10	7440-48-4	
Copper, Dissolved	**0.0033**	mg/L	0.0010	0.00021	1	09/16/15 11:04	09/16/15 23:10	7440-50-8	
Iron, Dissolved	ND	mg/L	0.050	0.014	1	09/16/15 11:04	09/16/15 23:10	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	09/16/15 11:04	09/16/15 23:10	7439-92-1	
Nickel, Dissolved	**0.00020J**	mg/L	0.00050	0.00016	1	09/16/15 11:04	09/16/15 23:10	7440-02-0	
Selenium, Dissolved	**0.00058**	mg/L	0.00050	0.00020	1	09/16/15 11:04	09/16/15 23:10	7782-49-2	
Vanadium, Dissolved	**0.0070**	mg/L	0.0010	0.00028	1	09/16/15 11:04	09/16/15 23:10	7440-62-2	
Zinc, Dissolved	ND	mg/L	0.0050	0.0024	1	09/16/15 11:04	09/16/15 23:10	7440-66-6	
7470A Mercury, Dissolved	Analytical Method: EPA 7470A Preparation Method: EPA 7470A								
Mercury, Dissolved	ND	ug/L	0.20	0.022	1	09/08/15 12:15	09/08/15 16:31	7439-97-6	
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	20.0	7.1	1		09/05/15 04:13	67-64-1	
Acrylonitrile	ND	ug/L	10.0	3.5	1		09/05/15 04:13	107-13-1	
Benzene	ND	ug/L	1.0	0.21	1		09/05/15 04:13	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.34	1		09/05/15 04:13	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/05/15 04:13	75-27-4	
Bromoform	ND	ug/L	4.0	0.41	1		09/05/15 04:13	75-25-2	
Bromomethane	ND	ug/L	4.0	0.36	1		09/05/15 04:13	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		09/05/15 04:13	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.22	1		09/05/15 04:13	75-15-0	
Carbon tetrachloride	ND	ug/L	4.0	0.35	1		09/05/15 04:13	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/05/15 04:13	108-90-7	
Chloroethane	ND	ug/L	1.0	0.34	1		09/05/15 04:13	75-00-3	
Chloroform	ND	ug/L	1.0	0.27	1		09/05/15 04:13	67-66-3	
Chloromethane	ND	ug/L	4.0	0.64	1		09/05/15 04:13	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	0.70	1		09/05/15 04:13	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.16	1		09/05/15 04:13	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.23	1		09/05/15 04:13	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.31	1		09/05/15 04:13	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.22	1		09/05/15 04:13	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.16	1		09/05/15 04:13	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	0.88	1		09/05/15 04:13	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.49	1		09/05/15 04:13	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.22	1		09/05/15 04:13	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.17	1		09/05/15 04:13	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		09/05/15 04:13	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.25	1		09/05/15 04:13	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.21	1		09/05/15 04:13	156-60-5	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: BSB-GW-01-090115 Lab ID: **10320830001** Collected: 09/01/15 10:13 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
1,2-Dichloropropane	ND	ug/L	4.0	0.42	1		09/05/15 04:13	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.21	1		09/05/15 04:13	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.22	1		09/05/15 04:13	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/05/15 04:13	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.3	1		09/05/15 04:13	591-78-6	
Iodomethane	ND	ug/L	4.0	0.64	1		09/05/15 04:13	74-88-4	CL
Methylene Chloride	ND	ug/L	4.0	0.56	1		09/05/15 04:13	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.4	1		09/05/15 04:13	108-10-1	
Styrene	ND	ug/L	1.0	0.11	1		09/05/15 04:13	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		09/05/15 04:13	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.22	1		09/05/15 04:13	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.19	1		09/05/15 04:13	127-18-4	
Toluene	ND	ug/L	1.0	0.13	1		09/05/15 04:13	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.20	1		09/05/15 04:13	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.24	1		09/05/15 04:13	79-00-5	
Trichloroethene	ND	ug/L	0.40	0.14	1		09/05/15 04:13	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.18	1		09/05/15 04:13	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.50	1		09/05/15 04:13	96-18-4	
Vinyl acetate	ND	ug/L	10.0	0.37	1		09/05/15 04:13	108-05-4	
Vinyl chloride	ND	ug/L	0.40	0.15	1		09/05/15 04:13	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/05/15 04:13	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.41	1		09/05/15 04:13	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.19	1		09/05/15 04:13	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%.	75-125		1		09/05/15 04:13	17060-07-0	
Toluene-d8 (S)	92	%.	75-125		1		09/05/15 04:13	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	75-125		1		09/05/15 04:13	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**886**	umhos/cm	1.0	1.0	1		09/10/15 09:00		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.1**	Std. Units	0.10	0.10	1		09/13/15 12:10		H6
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4								
Chemical Oxygen Demand	ND	mg/L	50.0	16.5	1	09/16/15 11:44	09/16/15 15:16		
SM4500NO3-H, NO2 + NO3 pres.	Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	**2.9**	mg/L	0.10	0.050	1		09/16/15 14:40		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**188**	mg/L	62.5	31.2	25		09/16/15 14:30	14808-79-8	M6
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**59.5**	mg/L	2.0	0.93	2		09/14/15 15:50	16887-00-6	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: BSB-GW-01-090115 Lab ID: **10320830001** Collected: 09/01/15 10:13 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E								
Cyanide	**5.6J**	ug/L	10.0	5.0	1	09/14/15 14:03	09/14/15 17:04	57-12-5	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: BSB-GW-02-090115 **Lab ID: 10320830002** Collected: 09/01/15 12:38 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	20.0	7.1	1		09/05/15 04:39	67-64-1	
Acrylonitrile	ND	ug/L	10.0	3.5	1		09/05/15 04:39	107-13-1	
Benzene	ND	ug/L	1.0	0.21	1		09/05/15 04:39	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.34	1		09/05/15 04:39	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/05/15 04:39	75-27-4	
Bromoform	ND	ug/L	4.0	0.41	1		09/05/15 04:39	75-25-2	
Bromomethane	ND	ug/L	4.0	0.36	1		09/05/15 04:39	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		09/05/15 04:39	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.22	1		09/05/15 04:39	75-15-0	
Carbon tetrachloride	ND	ug/L	4.0	0.35	1		09/05/15 04:39	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/05/15 04:39	108-90-7	
Chloroethane	ND	ug/L	1.0	0.34	1		09/05/15 04:39	75-00-3	
Chloroform	ND	ug/L	1.0	0.27	1		09/05/15 04:39	67-66-3	
Chloromethane	ND	ug/L	4.0	0.64	1		09/05/15 04:39	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	0.70	1		09/05/15 04:39	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.16	1		09/05/15 04:39	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.23	1		09/05/15 04:39	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.31	1		09/05/15 04:39	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.22	1		09/05/15 04:39	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.16	1		09/05/15 04:39	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	0.88	1		09/05/15 04:39	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.49	1		09/05/15 04:39	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.22	1		09/05/15 04:39	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.17	1		09/05/15 04:39	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		09/05/15 04:39	75-35-4	
cis-1,2-Dichloroethene	**0.62J**	ug/L	1.0	0.25	1		09/05/15 04:39	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.21	1		09/05/15 04:39	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.42	1		09/05/15 04:39	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.21	1		09/05/15 04:39	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.22	1		09/05/15 04:39	10061-02-6	
Ethylbenzene	**0.24J**	ug/L	1.0	0.23	1		09/05/15 04:39	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.3	1		09/05/15 04:39	591-78-6	
Iodomethane	ND	ug/L	4.0	0.64	1		09/05/15 04:39	74-88-4	CL
Methylene Chloride	ND	ug/L	4.0	0.56	1		09/05/15 04:39	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.4	1		09/05/15 04:39	108-10-1	
Styrene	ND	ug/L	1.0	0.11	1		09/05/15 04:39	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		09/05/15 04:39	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.22	1		09/05/15 04:39	79-34-5	
Tetrachloroethene	**0.29J**	ug/L	1.0	0.19	1		09/05/15 04:39	127-18-4	
Toluene	ND	ug/L	1.0	0.13	1		09/05/15 04:39	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.20	1		09/05/15 04:39	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.24	1		09/05/15 04:39	79-00-5	
Trichloroethene	**0.24J**	ug/L	0.40	0.14	1		09/05/15 04:39	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.18	1		09/05/15 04:39	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.50	1		09/05/15 04:39	96-18-4	
Vinyl acetate	ND	ug/L	10.0	0.37	1		09/05/15 04:39	108-05-4	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: BSB-GW-02-090115 **Lab ID: 10320830002** Collected: 09/01/15 12:38 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Vinyl chloride	ND	ug/L	0.40	0.15	1		09/05/15 04:39	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/05/15 04:39	1330-20-7	
m&p-Xylene	**0.63J**	ug/L	2.0	0.41	1		09/05/15 04:39	179601-23-1	
o-Xylene	**0.42J**	ug/L	1.0	0.19	1		09/05/15 04:39	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	85	%.	75-125		1		09/05/15 04:39	17060-07-0	
Toluene-d8 (S)	91	%.	75-125		1		09/05/15 04:39	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125		1		09/05/15 04:39	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**554**	umhos/cm	1.0	1.0	1		09/10/15 09:01		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.10	1		09/13/15 12:12		H6
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4								
Chemical Oxygen Demand	ND	mg/L	50.0	16.5	1	09/16/15 11:44	09/16/15 15:18		
SM4500NO3-H, NO2 + NO3 pres.	Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	**0.28**	mg/L	0.10	0.050	1		09/16/15 14:41		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**106**	mg/L	25.0	12.5	10		09/16/15 14:24	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**20.3**	mg/L	1.0	0.46	1		09/14/15 15:38	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E								
Cyanide	**6.1J**	ug/L	10.0	5.0	1	09/14/15 14:03	09/14/15 17:04	57-12-5	

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ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: BSB-GW-03-090115 Lab ID: 10320830003 Collected: 09/01/15 15:40 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	20.0	7.1	1		09/05/15 05:05	67-64-1	
Acrylonitrile	ND	ug/L	10.0	3.5	1		09/05/15 05:05	107-13-1	
Benzene	ND	ug/L	1.0	0.21	1		09/05/15 05:05	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.34	1		09/05/15 05:05	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/05/15 05:05	75-27-4	
Bromoform	ND	ug/L	4.0	0.41	1		09/05/15 05:05	75-25-2	
Bromomethane	ND	ug/L	4.0	0.36	1		09/05/15 05:05	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		09/05/15 05:05	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.22	1		09/05/15 05:05	75-15-0	
Carbon tetrachloride	ND	ug/L	4.0	0.35	1		09/05/15 05:05	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/05/15 05:05	108-90-7	
Chloroethane	ND	ug/L	1.0	0.34	1		09/05/15 05:05	75-00-3	
Chloroform	ND	ug/L	1.0	0.27	1		09/05/15 05:05	67-66-3	
Chloromethane	ND	ug/L	4.0	0.64	1		09/05/15 05:05	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	0.70	1		09/05/15 05:05	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.16	1		09/05/15 05:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.23	1		09/05/15 05:05	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.31	1		09/05/15 05:05	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.22	1		09/05/15 05:05	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.16	1		09/05/15 05:05	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	0.88	1		09/05/15 05:05	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.49	1		09/05/15 05:05	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.22	1		09/05/15 05:05	75-34-3	
1,2-Dichloroethane	**0.37J**	ug/L	1.0	0.17	1		09/05/15 05:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		09/05/15 05:05	75-35-4	
cis-1,2-Dichloroethene	**2.4**	ug/L	1.0	0.25	1		09/05/15 05:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.21	1		09/05/15 05:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.42	1		09/05/15 05:05	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.21	1		09/05/15 05:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.22	1		09/05/15 05:05	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/05/15 05:05	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.3	1		09/05/15 05:05	591-78-6	
Iodomethane	ND	ug/L	4.0	0.64	1		09/05/15 05:05	74-88-4	CL
Methylene Chloride	ND	ug/L	4.0	0.56	1		09/05/15 05:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.4	1		09/05/15 05:05	108-10-1	
Styrene	ND	ug/L	1.0	0.11	1		09/05/15 05:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		09/05/15 05:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.22	1		09/05/15 05:05	79-34-5	
Tetrachloroethene	**0.89J**	ug/L	1.0	0.19	1		09/05/15 05:05	127-18-4	
Toluene	ND	ug/L	1.0	0.13	1		09/05/15 05:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.20	1		09/05/15 05:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.24	1		09/05/15 05:05	79-00-5	
Trichloroethene	**0.51**	ug/L	0.40	0.14	1		09/05/15 05:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.18	1		09/05/15 05:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.50	1		09/05/15 05:05	96-18-4	
Vinyl acetate	ND	ug/L	10.0	0.37	1		09/05/15 05:05	108-05-4	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: BSB-GW-03-090115 **Lab ID: 10320830003** Collected: 09/01/15 15:40 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Vinyl chloride	ND	ug/L	0.40	0.15	1		09/05/15 05:05	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/05/15 05:05	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.41	1		09/05/15 05:05	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.19	1		09/05/15 05:05	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%.	75-125		1		09/05/15 05:05	17060-07-0	
Toluene-d8 (S)	92	%.	75-125		1		09/05/15 05:05	2037-26-5	
4-Bromofluorobenzene (S)	97	%.	75-125		1		09/05/15 05:05	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1640**	umhos/cm	1.0	1.0	1		09/10/15 09:06		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.2**	Std. Units	0.10	0.10	1		09/13/15 12:15		H6
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4								
Chemical Oxygen Demand	ND	mg/L	50.0	16.5	1	09/16/15 11:44	09/16/15 15:19		
SM4500NO3-H, NO2 + NO3 pres.	Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	**0.40**	mg/L	0.10	0.050	1		09/16/15 14:45		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**685**	mg/L	250	125	100		09/16/15 14:33	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**32.4**	mg/L	2.0	0.93	2		09/14/15 15:50	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E								
Cyanide	**9.5J**	ug/L	10.0	5.0	1	09/14/15 14:03	09/14/15 17:05	57-12-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: BSB-GW-04-090115 **Lab ID: 10320830004** Collected: 09/01/15 15:00 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	20.0	7.1	1		09/05/15 05:31	67-64-1	
Acrylonitrile	ND	ug/L	10.0	3.5	1		09/05/15 05:31	107-13-1	
Benzene	**0.53J**	ug/L	1.0	0.21	1		09/05/15 05:31	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.34	1		09/05/15 05:31	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/05/15 05:31	75-27-4	
Bromoform	ND	ug/L	4.0	0.41	1		09/05/15 05:31	75-25-2	
Bromomethane	ND	ug/L	4.0	0.36	1		09/05/15 05:31	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		09/05/15 05:31	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.22	1		09/05/15 05:31	75-15-0	
Carbon tetrachloride	ND	ug/L	4.0	0.35	1		09/05/15 05:31	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/05/15 05:31	108-90-7	
Chloroethane	ND	ug/L	1.0	0.34	1		09/05/15 05:31	75-00-3	
Chloroform	ND	ug/L	1.0	0.27	1		09/05/15 05:31	67-66-3	
Chloromethane	ND	ug/L	4.0	0.64	1		09/05/15 05:31	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	0.70	1		09/05/15 05:31	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.16	1		09/05/15 05:31	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.23	1		09/05/15 05:31	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.31	1		09/05/15 05:31	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.22	1		09/05/15 05:31	95-50-1	
1,4-Dichlorobenzene	**1.5**	ug/L	1.0	0.16	1		09/05/15 05:31	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	0.88	1		09/05/15 05:31	110-57-6	
Dichlorodifluoromethane	**1.6**	ug/L	1.0	0.49	1		09/05/15 05:31	75-71-8	
1,1-Dichloroethane	**1.1**	ug/L	1.0	0.22	1		09/05/15 05:31	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.17	1		09/05/15 05:31	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		09/05/15 05:31	75-35-4	
cis-1,2-Dichloroethene	**3.6**	ug/L	1.0	0.25	1		09/05/15 05:31	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.21	1		09/05/15 05:31	156-60-5	
1,2-Dichloropropane	**0.55J**	ug/L	4.0	0.42	1		09/05/15 05:31	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.21	1		09/05/15 05:31	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.22	1		09/05/15 05:31	10061-02-6	
Ethylbenzene	**0.32J**	ug/L	1.0	0.23	1		09/05/15 05:31	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.3	1		09/05/15 05:31	591-78-6	
Iodomethane	ND	ug/L	4.0	0.64	1		09/05/15 05:31	74-88-4	CL
Methylene Chloride	ND	ug/L	4.0	0.56	1		09/05/15 05:31	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.4	1		09/05/15 05:31	108-10-1	
Styrene	ND	ug/L	1.0	0.11	1		09/05/15 05:31	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		09/05/15 05:31	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.22	1		09/05/15 05:31	79-34-5	
Tetrachloroethene	**0.20J**	ug/L	1.0	0.19	1		09/05/15 05:31	127-18-4	
Toluene	ND	ug/L	1.0	0.13	1		09/05/15 05:31	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.20	1		09/05/15 05:31	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.24	1		09/05/15 05:31	79-00-5	
Trichloroethene	**0.26J**	ug/L	0.40	0.14	1		09/05/15 05:31	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.18	1		09/05/15 05:31	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.50	1		09/05/15 05:31	96-18-4	
Vinyl acetate	ND	ug/L	10.0	0.37	1		09/05/15 05:31	108-05-4	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: BSB-GW-04-090115 **Lab ID: 10320830004** Collected: 09/01/15 15:00 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Vinyl chloride	**1.9**	ug/L	0.40	0.15	1		09/05/15 05:31	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/05/15 05:31	1330-20-7	
m&p-Xylene	**0.81J**	ug/L	2.0	0.41	1		09/05/15 05:31	179601-23-1	
o-Xylene	**0.52J**	ug/L	1.0	0.19	1		09/05/15 05:31	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%.	75-125		1		09/05/15 05:31	17060-07-0	
Toluene-d8 (S)	92	%.	75-125		1		09/05/15 05:31	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125		1		09/05/15 05:31	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**3190**	umhos/cm	1.0	1.0	1		09/10/15 09:07		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**5.2**	Std. Units	0.10	0.10	1		09/13/15 12:16		H6
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4								
Chemical Oxygen Demand	**448**	mg/L	50.0	16.5	1	09/16/15 11:44	09/16/15 15:19		
SM4500NO3-H, NO2 + NO3 pres.	Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	**0.38**	mg/L	0.10	0.050	1		09/16/15 14:46		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**2050**	mg/L	250	125	100		09/16/15 14:33	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**78.7**	mg/L	5.0	2.3	5		09/14/15 16:11	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E								
Cyanide	**11.6**	ug/L	10.0	5.0	1	09/14/15 14:03	09/14/15 17:05	57-12-5	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: BSB-GW-07-090115 **Lab ID: 10320830005** Collected: 09/01/15 15:00 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Acetone	ND	ug/L	20.0	7.1	1		09/05/15 05:57	67-64-1	
Acrylonitrile	ND	ug/L	10.0	3.5	1		09/05/15 05:57	107-13-1	
Benzene	**0.55J**	ug/L	1.0	0.21	1		09/05/15 05:57	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.34	1		09/05/15 05:57	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/05/15 05:57	75-27-4	
Bromoform	ND	ug/L	4.0	0.41	1		09/05/15 05:57	75-25-2	
Bromomethane	ND	ug/L	4.0	0.36	1		09/05/15 05:57	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		09/05/15 05:57	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.22	1		09/05/15 05:57	75-15-0	
Carbon tetrachloride	ND	ug/L	4.0	0.35	1		09/05/15 05:57	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/05/15 05:57	108-90-7	
Chloroethane	ND	ug/L	1.0	0.34	1		09/05/15 05:57	75-00-3	
Chloroform	ND	ug/L	1.0	0.27	1		09/05/15 05:57	67-66-3	
Chloromethane	ND	ug/L	4.0	0.64	1		09/05/15 05:57	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	0.70	1		09/05/15 05:57	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.16	1		09/05/15 05:57	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.23	1		09/05/15 05:57	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.31	1		09/05/15 05:57	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.22	1		09/05/15 05:57	95-50-1	
1,4-Dichlorobenzene	**1.6**	ug/L	1.0	0.16	1		09/05/15 05:57	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	0.88	1		09/05/15 05:57	110-57-6	
Dichlorodifluoromethane	**1.5**	ug/L	1.0	0.49	1		09/05/15 05:57	75-71-8	
1,1-Dichloroethane	**1.1**	ug/L	1.0	0.22	1		09/05/15 05:57	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.17	1		09/05/15 05:57	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		09/05/15 05:57	75-35-4	
cis-1,2-Dichloroethene	**3.4**	ug/L	1.0	0.25	1		09/05/15 05:57	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.21	1		09/05/15 05:57	156-60-5	
1,2-Dichloropropane	**0.56J**	ug/L	4.0	0.42	1		09/05/15 05:57	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.21	1		09/05/15 05:57	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.22	1		09/05/15 05:57	10061-02-6	
Ethylbenzene	**0.33J**	ug/L	1.0	0.23	1		09/05/15 05:57	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.3	1		09/05/15 05:57	591-78-6	
Iodomethane	ND	ug/L	4.0	0.64	1		09/05/15 05:57	74-88-4	CL
Methylene Chloride	ND	ug/L	4.0	0.56	1		09/05/15 05:57	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.4	1		09/05/15 05:57	108-10-1	
Styrene	ND	ug/L	1.0	0.11	1		09/05/15 05:57	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		09/05/15 05:57	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.22	1		09/05/15 05:57	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.19	1		09/05/15 05:57	127-18-4	
Toluene	ND	ug/L	1.0	0.13	1		09/05/15 05:57	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.20	1		09/05/15 05:57	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.24	1		09/05/15 05:57	79-00-5	
Trichloroethene	**0.35J**	ug/L	0.40	0.14	1		09/05/15 05:57	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.18	1		09/05/15 05:57	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.50	1		09/05/15 05:57	96-18-4	
Vinyl acetate	ND	ug/L	10.0	0.37	1		09/05/15 05:57	108-05-4	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: BSB-GW-07-090115 **Lab ID: 10320830005** Collected: 09/01/15 15:00 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Vinyl chloride	**1.9**	ug/L	0.40	0.15	1		09/05/15 05:57	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/05/15 05:57	1330-20-7	
m&p-Xylene	**0.84J**	ug/L	2.0	0.41	1		09/05/15 05:57	179601-23-1	
o-Xylene	**0.54J**	ug/L	1.0	0.19	1		09/05/15 05:57	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	88	%.	75-125		1		09/05/15 05:57	17060-07-0	
Toluene-d8 (S)	91	%.	75-125		1		09/05/15 05:57	2037-26-5	
4-Bromofluorobenzene (S)	98	%.	75-125		1		09/05/15 05:57	460-00-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: Trip Blank **Lab ID: 10320830006** Collected: 09/01/15 00:00 Received: 09/03/15 10:00 Matrix: Water

8260B MSV Analytical Method: EPA 8260B

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
Acetone	ND	ug/L	20.0	7.1	1		09/05/15 00:43	67-64-1	
Acrylonitrile	ND	ug/L	10.0	3.5	1		09/05/15 00:43	107-13-1	
Benzene	ND	ug/L	1.0	0.21	1		09/05/15 00:43	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.34	1		09/05/15 00:43	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.18	1		09/05/15 00:43	75-27-4	
Bromoform	ND	ug/L	4.0	0.41	1		09/05/15 00:43	75-25-2	
Bromomethane	ND	ug/L	4.0	0.36	1		09/05/15 00:43	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		09/05/15 00:43	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.22	1		09/05/15 00:43	75-15-0	
Carbon tetrachloride	ND	ug/L	4.0	0.35	1		09/05/15 00:43	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.23	1		09/05/15 00:43	108-90-7	
Chloroethane	ND	ug/L	1.0	0.34	1		09/05/15 00:43	75-00-3	
Chloroform	ND	ug/L	1.0	0.27	1		09/05/15 00:43	67-66-3	
Chloromethane	ND	ug/L	4.0	0.64	1		09/05/15 00:43	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	0.70	1		09/05/15 00:43	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.16	1		09/05/15 00:43	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.23	1		09/05/15 00:43	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.31	1		09/05/15 00:43	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.22	1		09/05/15 00:43	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.16	1		09/05/15 00:43	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	0.88	1		09/05/15 00:43	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.49	1		09/05/15 00:43	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.22	1		09/05/15 00:43	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.17	1		09/05/15 00:43	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.22	1		09/05/15 00:43	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.25	1		09/05/15 00:43	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.21	1		09/05/15 00:43	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.42	1		09/05/15 00:43	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.21	1		09/05/15 00:43	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.22	1		09/05/15 00:43	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.23	1		09/05/15 00:43	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.3	1		09/05/15 00:43	591-78-6	
Iodomethane	ND	ug/L	4.0	0.64	1		09/05/15 00:43	74-88-4	CL
Methylene Chloride	ND	ug/L	4.0	0.56	1		09/05/15 00:43	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.4	1		09/05/15 00:43	108-10-1	
Styrene	ND	ug/L	1.0	0.11	1		09/05/15 00:43	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.20	1		09/05/15 00:43	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.22	1		09/05/15 00:43	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.19	1		09/05/15 00:43	127-18-4	
Toluene	ND	ug/L	1.0	0.13	1		09/05/15 00:43	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.20	1		09/05/15 00:43	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.24	1		09/05/15 00:43	79-00-5	
Trichloroethene	ND	ug/L	0.40	0.14	1		09/05/15 00:43	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.18	1		09/05/15 00:43	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.50	1		09/05/15 00:43	96-18-4	
Vinyl acetate	ND	ug/L	10.0	0.37	1		09/05/15 00:43	108-05-4	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10320830

Sample: Trip Blank **Lab ID: 10320830006** Collected: 09/01/15 00:00 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260B MSV	Analytical Method: EPA 8260B								
Vinyl chloride	ND	ug/L	0.40	0.15	1		09/05/15 00:43	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.60	1		09/05/15 00:43	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.41	1		09/05/15 00:43	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.19	1		09/05/15 00:43	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	89	%.	75-125		1		09/05/15 00:43	17060-07-0	
Toluene-d8 (S)	91	%.	75-125		1		09/05/15 00:43	2037-26-5	
4-Bromofluorobenzene (S)	96	%.	75-125		1		09/05/15 00:43	460-00-4	

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

QC Batch: MERP/14673
QC Batch Method: EPA 7470A
Associated Lab Samples: 10320830001

Analysis Method: EPA 7470A
Analysis Description: 7470A Mercury Water Dissolved

METHOD BLANK: 2070700
Matrix: Water
Associated Lab Samples: 10320830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	ug/L	ND	0.20	09/08/15 16:22	

LABORATORY CONTROL SAMPLE: 2070701

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	ug/L	5	5.3	106	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2071004 2071005

Parameter	Units	10320830001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	ug/L	ND	5	5	5.3	5.3	106	105	80-120	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

QC Batch: MPRP/57805
Analysis Method: EPA 6020A
QC Batch Method: EPA 3020
Analysis Description: 6020A Water Dissolved UPD4
Associated Lab Samples: 10320830001

METHOD BLANK: 2078746
Matrix: Water
Associated Lab Samples: 10320830001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.00050	09/16/15 23:05	
Arsenic, Dissolved	mg/L	ND	0.00050	09/16/15 23:05	
Barium, Dissolved	mg/L	ND	0.00030	09/16/15 23:05	
Beryllium, Dissolved	mg/L	ND	0.00020	09/16/15 23:05	
Cadmium, Dissolved	mg/L	ND	0.000080	09/16/15 23:05	
Chromium, Dissolved	mg/L	ND	0.00050	09/16/15 23:05	
Cobalt, Dissolved	mg/L	ND	0.00050	09/16/15 23:05	
Copper, Dissolved	mg/L	ND	0.0010	09/16/15 23:05	
Iron, Dissolved	mg/L	ND	0.050	09/16/15 23:05	
Lead, Dissolved	mg/L	ND	0.00010	09/16/15 23:05	
Nickel, Dissolved	mg/L	ND	0.00050	09/16/15 23:05	
Selenium, Dissolved	mg/L	ND	0.00050	09/16/15 23:05	
Vanadium, Dissolved	mg/L	ND	0.0010	09/16/15 23:05	
Zinc, Dissolved	mg/L	ND	0.0050	09/16/15 23:05	

LABORATORY CONTROL SAMPLE: 2078747

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	.08	0.085	107	80-120	
Arsenic, Dissolved	mg/L	.08	0.085	106	80-120	
Barium, Dissolved	mg/L	.08	0.084	105	80-120	
Beryllium, Dissolved	mg/L	.08	0.083	104	80-120	
Cadmium, Dissolved	mg/L	.08	0.084	105	80-120	
Chromium, Dissolved	mg/L	.08	0.084	105	80-120	
Cobalt, Dissolved	mg/L	.08	0.083	104	80-120	
Copper, Dissolved	mg/L	.08	0.084	105	80-120	
Iron, Dissolved	mg/L	1	1.1	105	80-120	
Lead, Dissolved	mg/L	.08	0.086	107	80-120	
Nickel, Dissolved	mg/L	.08	0.082	103	80-120	
Selenium, Dissolved	mg/L	.08	0.083	104	80-120	
Vanadium, Dissolved	mg/L	.08	0.085	106	80-120	
Zinc, Dissolved	mg/L	.08	0.083	104	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078748 2078749

Parameter	Units	10320830001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	mg/L	ND	.08	.08	0.084	0.084	105	105	75-125	0	20	

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078748 2078749

Parameter	Units	10320830001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	0.0012	.08	.08	0.085	0.086	105	106	75-125	1	20	
Barium, Dissolved	mg/L	0.15	.08	.08	0.23	0.23	102	100	75-125	1	20	
Beryllium, Dissolved	mg/L	ND	.08	.08	0.083	0.084	103	105	75-125	2	20	
Cadmium, Dissolved	mg/L	ND	.08	.08	0.082	0.083	103	103	75-125	1	20	
Chromium, Dissolved	mg/L	0.00044J	.08	.08	0.083	0.083	103	103	75-125	0	20	
Cobalt, Dissolved	mg/L	ND	.08	.08	0.082	0.082	102	102	75-125	0	20	
Copper, Dissolved	mg/L	0.0033	.08	.08	0.085	0.084	102	101	75-125	1	20	
Iron, Dissolved	mg/L	ND	1	1	1.0	1.0	103	103	75-125	0	20	
Lead, Dissolved	mg/L	ND	.08	.08	0.083	0.083	103	103	75-125	0	20	
Nickel, Dissolved	mg/L	0.00020J	.08	.08	0.081	0.081	101	101	75-125	0	20	
Selenium, Dissolved	mg/L	0.00058	.08	.08	0.083	0.083	104	103	75-125	0	20	
Vanadium, Dissolved	mg/L	0.0070	.08	.08	0.091	0.092	105	106	75-125	1	20	
Zinc, Dissolved	mg/L	ND	.08	.08	0.083	0.082	103	102	75-125	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

QC Batch: MSV/33055
Analysis Method: EPA 8260B
QC Batch Method: EPA 8260B
Analysis Description: 8260B MSV
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004, 10320830005, 10320830006

METHOD BLANK: 2068248
Matrix: Water
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004, 10320830005, 10320830006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	09/04/15 23:50	
1,1,1-Trichloroethane	ug/L	ND	1.0	09/04/15 23:50	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	09/04/15 23:50	
1,1,2-Trichloroethane	ug/L	ND	1.0	09/04/15 23:50	
1,1-Dichloroethane	ug/L	ND	1.0	09/04/15 23:50	
1,1-Dichloroethene	ug/L	ND	1.0	09/04/15 23:50	
1,2,3-Trichloropropane	ug/L	ND	4.0	09/04/15 23:50	
1,2-Dibromo-3-chloropropane	ug/L	ND	4.0	09/04/15 23:50	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	09/04/15 23:50	
1,2-Dichlorobenzene	ug/L	ND	1.0	09/04/15 23:50	
1,2-Dichloroethane	ug/L	ND	1.0	09/04/15 23:50	
1,2-Dichloropropane	ug/L	ND	4.0	09/04/15 23:50	
1,4-Dichlorobenzene	ug/L	ND	1.0	09/04/15 23:50	
2-Butanone (MEK)	ug/L	ND	5.0	09/04/15 23:50	
2-Hexanone	ug/L	ND	5.0	09/04/15 23:50	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	09/04/15 23:50	
Acetone	ug/L	ND	20.0	09/04/15 23:50	
Acrylonitrile	ug/L	ND	10.0	09/04/15 23:50	
Benzene	ug/L	ND	1.0	09/04/15 23:50	
Bromochloromethane	ug/L	ND	1.0	09/04/15 23:50	
Bromodichloromethane	ug/L	ND	1.0	09/04/15 23:50	
Bromoform	ug/L	ND	4.0	09/04/15 23:50	
Bromomethane	ug/L	ND	4.0	09/04/15 23:50	
Carbon disulfide	ug/L	ND	1.0	09/04/15 23:50	
Carbon tetrachloride	ug/L	ND	4.0	09/04/15 23:50	
Chlorobenzene	ug/L	ND	1.0	09/04/15 23:50	
Chloroethane	ug/L	ND	1.0	09/04/15 23:50	
Chloroform	ug/L	ND	1.0	09/04/15 23:50	
Chloromethane	ug/L	ND	4.0	09/04/15 23:50	
cis-1,2-Dichloroethene	ug/L	ND	1.0	09/04/15 23:50	
cis-1,3-Dichloropropene	ug/L	ND	4.0	09/04/15 23:50	
Dibromochloromethane	ug/L	ND	1.0	09/04/15 23:50	
Dibromomethane	ug/L	ND	4.0	09/04/15 23:50	
Dichlorodifluoromethane	ug/L	ND	1.0	09/04/15 23:50	
Ethylbenzene	ug/L	ND	1.0	09/04/15 23:50	
Iodomethane	ug/L	ND	4.0	09/04/15 23:50	CL
m&p-Xylene	ug/L	ND	2.0	09/04/15 23:50	
Methylene Chloride	ug/L	ND	4.0	09/04/15 23:50	
o-Xylene	ug/L	ND	1.0	09/04/15 23:50	
Styrene	ug/L	ND	1.0	09/04/15 23:50	
Tetrachloroethene	ug/L	ND	1.0	09/04/15 23:50	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

METHOD BLANK: 2068248 Matrix: Water

Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004, 10320830005, 10320830006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Toluene	ug/L	ND	1.0	09/04/15 23:50	
trans-1,2-Dichloroethene	ug/L	ND	1.0	09/04/15 23:50	
trans-1,3-Dichloropropene	ug/L	ND	4.0	09/04/15 23:50	
trans-1,4-Dichloro-2-butene	ug/L	ND	10.0	09/04/15 23:50	
Trichloroethene	ug/L	ND	0.40	09/04/15 23:50	
Trichlorofluoromethane	ug/L	ND	1.0	09/04/15 23:50	
Vinyl acetate	ug/L	ND	10.0	09/04/15 23:50	
Vinyl chloride	ug/L	ND	0.40	09/04/15 23:50	
Xylene (Total)	ug/L	ND	3.0	09/04/15 23:50	
1,2-Dichloroethane-d4 (S)	%.	87	75-125	09/04/15 23:50	
4-Bromofluorobenzene (S)	%.	96	75-125	09/04/15 23:50	
Toluene-d8 (S)	%.	92	75-125	09/04/15 23:50	

LABORATORY CONTROL SAMPLE: 2068249

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	20.2	101	75-125	
1,1,1-Trichloroethane	ug/L	20	19.2	96	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	17.1	86	75-125	
1,1,2-Trichloroethane	ug/L	20	19.3	96	75-125	
1,1-Dichloroethane	ug/L	20	17.4	87	69-125	
1,1-Dichloroethene	ug/L	20	15.3	76	68-125	
1,2,3-Trichloropropane	ug/L	20	17.7	89	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	41.2	82	65-145	
1,2-Dibromoethane (EDB)	ug/L	20	19.2	96	75-125	
1,2-Dichlorobenzene	ug/L	20	18.2	91	75-125	
1,2-Dichloroethane	ug/L	20	17.9	89	73-125	
1,2-Dichloropropane	ug/L	20	19.8	99	75-125	
1,4-Dichlorobenzene	ug/L	20	17.3	87	75-125	
2-Butanone (MEK)	ug/L	100	79.4	79	63-130	
2-Hexanone	ug/L	100	82.3	82	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	85.3	85	71-126	
Acetone	ug/L	100	126	126	69-131	
Acrylonitrile	ug/L	200	168	84	68-125	
Benzene	ug/L	20	19.0	95	71-125	
Bromochloromethane	ug/L	20	20.0	100	75-125	
Bromodichloromethane	ug/L	20	22.6	113	75-125	
Bromoform	ug/L	20	21.0	105	70-125	
Bromomethane	ug/L	20	15.5	77	30-150	
Carbon disulfide	ug/L	20	14.1	70	57-129	
Carbon tetrachloride	ug/L	20	20.7	104	75-126	
Chlorobenzene	ug/L	20	19.2	96	75-125	
Chloroethane	ug/L	20	19.4	97	65-134	
Chloroform	ug/L	20	19.8	99	75-125	

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

LABORATORY CONTROL SAMPLE: 2068249

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloromethane	ug/L	20	13.5	68	39-150	
cis-1,2-Dichloroethene	ug/L	20	20.0	100	72-125	
cis-1,3-Dichloropropene	ug/L	20	20.7	104	75-125	
Dibromochloromethane	ug/L	20	22.4	112	75-125	
Dibromomethane	ug/L	20	20.7	104	75-125	
Dichlorodifluoromethane	ug/L	20	19.2	96	50-134	
Ethylbenzene	ug/L	20	18.9	95	75-125	
Iodomethane	ug/L	20	10.3	51	32-137	CL
m&p-Xylene	ug/L	40	39.7	99	75-125	
Methylene Chloride	ug/L	20	18.4	92	73-125	
o-Xylene	ug/L	20	19.4	97	75-125	
Styrene	ug/L	20	20.4	102	75-125	
Tetrachloroethene	ug/L	20	18.8	94	74-125	
Toluene	ug/L	20	18.2	91	74-125	
trans-1,2-Dichloroethene	ug/L	20	16.8	84	69-125	
trans-1,3-Dichloropropene	ug/L	20	18.5	93	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	39.4	79	64-130	
Trichloroethene	ug/L	20	20.3	102	75-125	
Trichlorofluoromethane	ug/L	20	21.6	108	74-127	
Vinyl acetate	ug/L	20	12.3	62	59-127	
Vinyl chloride	ug/L	20	16.9	84	66-132	
Xylene (Total)	ug/L	60	59.1	98	75-125	
1,2-Dichloroethane-d4 (S)	%.			88	75-125	
4-Bromofluorobenzene (S)	%.			94	75-125	
Toluene-d8 (S)	%.			91	75-125	

MATRIX SPIKE SAMPLE: 2068250

Parameter	Units	10320624022 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	18.0	90	70-138	
1,1,1-Trichloroethane	ug/L	ND	20	17.5	88	55-150	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	14.9	74	64-140	
1,1,2-Trichloroethane	ug/L	ND	20	17.0	85	67-137	
1,1-Dichloroethane	ug/L	4.2	20	21.7	87	49-150	
1,1-Dichloroethene	ug/L	2.1	20	20.6	93	40-150	
1,2,3-Trichloropropane	ug/L	ND	20	15.5	78	65-141	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	35.0	70	53-150	
1,2-Dibromoethane (EDB)	ug/L	ND	20	16.8	84	65-137	
1,2-Dichlorobenzene	ug/L	ND	20	16.3	81	66-133	
1,2-Dichloroethane	ug/L	10.3	20	26.0	79	54-138	
1,2-Dichloropropane	ug/L	ND	20	18.7	91	62-138	
1,4-Dichlorobenzene	ug/L	ND	20	15.1	75	65-129	
2-Butanone (MEK)	ug/L	ND	100	68.3	68	51-147	
2-Hexanone	ug/L	ND	100	71.1	71	62-145	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	74.7	75	59-143	

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

MATRIX SPIKE SAMPLE: 2068250

Parameter	Units	10320624022 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	ND	100	118	118	63-147	
Acrylonitrile	ug/L	ND	200	141	71	63-126	
Benzene	ug/L	ND	20	17.7	87	53-139	
Bromochloromethane	ug/L	ND	20	19.0	95	64-136	
Bromodichloromethane	ug/L	ND	20	19.7	98	66-138	
Bromoform	ug/L	ND	20	17.6	88	59-136	
Bromomethane	ug/L	ND	20	10.9	55	30-150	
Carbon disulfide	ug/L	ND	20	19.1	95	35-150	
Carbon tetrachloride	ug/L	ND	20	21.8	109	56-150	
Chlorobenzene	ug/L	ND	20	16.8	84	65-133	
Chloroethane	ug/L	ND	20	20.1	101	48-150	
Chloroform	ug/L	ND	20	16.6	83	57-145	
Chloromethane	ug/L	ND	20	15.7	78	30-150	
cis-1,2-Dichloroethene	ug/L	122	20	134	58	49-150	M1
cis-1,3-Dichloropropene	ug/L	ND	20	17.8	89	64-130	
Dibromochloromethane	ug/L	ND	20	18.9	95	68-138	
Dibromomethane	ug/L	ND	20	19.1	96	67-134	
Dichlorodifluoromethane	ug/L	ND	20	22.1	111	45-150	
Ethylbenzene	ug/L	ND	20	17.5	86	55-139	M1
Iodomethane	ug/L	ND	20	11.4	57	32-135	CL
m&p-Xylene	ug/L	ND	40	35.4	88	57-141	
Methylene Chloride	ug/L	ND	20	19.9	99	57-132	
o-Xylene	ug/L	ND	20	17.7	88	54-147	
Styrene	ug/L	ND	20	17.9	90	68-134	
Tetrachloroethene	ug/L	ND	20	18.2	91	50-150	
Toluene	ug/L	ND	20	16.8	84	52-148	
trans-1,2-Dichloroethene	ug/L	21.2	20	39.5	92	45-150	M1
trans-1,3-Dichloropropene	ug/L	ND	20	16.1	81	68-132	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	27.8	56	49-135	
Trichloroethene	ug/L	ND	20	18.2	89	52-150	
Trichlorofluoromethane	ug/L	ND	20	22.9	114	55-150	
Vinyl acetate	ug/L	ND	20	9.9J	50	41-130	
Vinyl chloride	ug/L	15.9	20	35.9	100	43-150	M1
Xylene (Total)	ug/L	ND	60	53.1	88	54-144	
1,2-Dichloroethane-d4 (S)	%.				88	75-125	
4-Bromofluorobenzene (S)	%.				95	75-125	
Toluene-d8 (S)	%.				92	75-125	

SAMPLE DUPLICATE: 2068251

Parameter	Units	10320624021 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

SAMPLE DUPLICATE: 2068251

Parameter	Units	10320624021 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethane	ug/L	5.4	6.0	9	30	D6
1,1-Dichloroethene	ug/L	ND	ND		30	
1,2,3-Trichloropropane	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	
Acrylonitrile	ug/L	ND	ND		30	
Benzene	ug/L	ND	0.76J		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	
Carbon disulfide	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	2.5	2.4	6	30	
Chloroform	ug/L	ND	ND		30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	1.8	1.6	11	30	D6
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dibromomethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Ethylbenzene	ug/L	27.7	25.7	7	30	
Iodomethane	ug/L	ND	ND		30	CL
m&p-Xylene	ug/L	3.4	3.4	1	30	
Methylene Chloride	ug/L	ND	ND		30	
o-Xylene	ug/L	2.5	2.2	12	30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	ND		30	
Trichloroethene	ug/L	1.5	1.3	13	30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl acetate	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	0.28J		30	
Xylene (Total)	ug/L	5.9	5.6	4	30	
1,2-Dichloroethane-d4 (S)	%.	86	85	1		

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

SAMPLE DUPLICATE: 2068251

Parameter	Units	10320624021 Result	Dup Result	RPD	Max RPD	Qualifiers
4-Bromofluorobenzene (S)	%.	94	97	3		
Toluene-d8 (S)	%.	90	92	2		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

QC Batch: WET/43944
QC Batch Method: EPA 120.1
Analysis Method: EPA 120.1
Analysis Description: 120.1 Specific Conductance
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

METHOD BLANK: 2069427
Matrix: Water
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	1.0	09/10/15 08:44	

LABORATORY CONTROL SAMPLE: 2069428

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	980	98	90-110	

SAMPLE DUPLICATE: 2069429

Parameter	Units	10320589001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	604	606	0	20	

SAMPLE DUPLICATE: 2073273

Parameter	Units	10320101001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	737	743	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

QC Batch: WET/44080
Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

LABORATORY CONTROL SAMPLE: 2076014

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	4.9	98	98-102	H6

SAMPLE DUPLICATE: 2076015

Parameter	Units	10320800002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.5	1	3	H6

SAMPLE DUPLICATE: 2076016

Parameter	Units	10320803001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	3	H6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

QC Batch: WETA/24698
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

METHOD BLANK: 2078823
Matrix: Water
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50.0	09/16/15 15:14	

LABORATORY CONTROL SAMPLE: 2078824

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	300	293	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078825 2078826

Parameter	Units	10320830001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chemical Oxygen Demand	mg/L	ND	250	250	249	248	95	95	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078970 2078971

Parameter	Units	10320830002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chemical Oxygen Demand	mg/L	ND	250	250	242	241	96	96	90-110	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

QC Batch: WETA/24693
Analysis Method: SM 4500-NO3 H
QC Batch Method: SM 4500-NO3 H
Analysis Description: SM4500NO3-H, NO2 + NO3 pres.
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

METHOD BLANK: 2077971
Matrix: Water
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	09/16/15 14:36	

LABORATORY CONTROL SAMPLE: 2077972

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.5	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2077973 2077974

Parameter	Units	10320830002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.28	2.5	2.5	2.6	2.6	95	92	80-120	3	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2077975 2077976

Parameter	Units	10321532007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	ND	2.5	2.5	2.0	2.0	77	77	80-120	0	30	M1

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

QC Batch: WETA/24700
Analysis Method: ASTM D516
QC Batch Method: ASTM D516
Analysis Description: ASTM D516 Sulfate Water
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

METHOD BLANK: 2078887
Matrix: Water
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	09/16/15 13:49	

LABORATORY CONTROL SAMPLE & LCSD: 2078888 2078889

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Sulfate	mg/L	7.5	7.3	7.9	97	105	80-120	7	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078890 2078891

Parameter	Units	10320830001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	188	20	20	194	188	30	1	80-120	3	30	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078892 2078893

Parameter	Units	10321856001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	113000 ug/L	20	20	141	141	144	141	80-120	1	30	M6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

QC Batch: WETA/24665
Analysis Method: SM 4500-Cl E
QC Batch Method: SM 4500-Cl E
Analysis Description: SM4500Cl-E Chloride
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

METHOD BLANK: 2076863
Matrix: Water
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	09/14/15 15:38	

LABORATORY CONTROL SAMPLE: 2076864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	15	15.8	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2076865 2076866

Parameter	Units	10320830001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	59.5	15	15	73.6	72.9	94	89	80-120	1	30	E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2076867 2076868

Parameter	Units	10320827009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	16.7	15	15	30.0	30.2	88	90	80-120	1	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10320830

QC Batch: WETA/24658
Analysis Method: SM 4500-CN-E
QC Batch Method: SM 4500-CN-E
Analysis Description: SM4500CN-E Cyanide
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

METHOD BLANK: 2076579
Matrix: Water
Associated Lab Samples: 10320830001, 10320830002, 10320830003, 10320830004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	ug/L	ND	10.0	09/14/15 16:36	

LABORATORY CONTROL SAMPLE: 2076580

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	ug/L	250	249	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2076581 2076582

Parameter	Units	10321002002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	92.2	250	250	300	319	83	91	80-120	6	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2076583 2076584

Parameter	Units	10320830004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	11.6	250	250	230	230	87	87	80-120	0	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project: Old Landfill
Pace Project No.: 10320830

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
D6	The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Old Landfill
Pace Project No.: 10320830

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10320830001	BSB-GW-01-090115	EPA 3020	MPRP/57805	EPA 6020A	ICPM/26312
10320830001	BSB-GW-01-090115	EPA 7470A	MERP/14673	EPA 7470A	MERC/17154
10320830001	BSB-GW-01-090115	EPA 8260B	MSV/33055		
10320830002	BSB-GW-02-090115	EPA 8260B	MSV/33055		
10320830003	BSB-GW-03-090115	EPA 8260B	MSV/33055		
10320830004	BSB-GW-04-090115	EPA 8260B	MSV/33055		
10320830005	BSB-GW-07-090115	EPA 8260B	MSV/33055		
10320830006	Trip Blank	EPA 8260B	MSV/33055		
10320830001	BSB-GW-01-090115	EPA 120.1	WET/43944		
10320830002	BSB-GW-02-090115	EPA 120.1	WET/43944		
10320830003	BSB-GW-03-090115	EPA 120.1	WET/43944		
10320830004	BSB-GW-04-090115	EPA 120.1	WET/43944		
10320830001	BSB-GW-01-090115	SM 4500-H+B	WET/44080		
10320830002	BSB-GW-02-090115	SM 4500-H+B	WET/44080		
10320830003	BSB-GW-03-090115	SM 4500-H+B	WET/44080		
10320830004	BSB-GW-04-090115	SM 4500-H+B	WET/44080		
10320830001	BSB-GW-01-090115	EPA 410.4	WETA/24698	EPA 410.4	WETA/24710
10320830002	BSB-GW-02-090115	EPA 410.4	WETA/24698	EPA 410.4	WETA/24710
10320830003	BSB-GW-03-090115	EPA 410.4	WETA/24698	EPA 410.4	WETA/24710
10320830004	BSB-GW-04-090115	EPA 410.4	WETA/24698	EPA 410.4	WETA/24710
10320830001	BSB-GW-01-090115	SM 4500-NO3 H	WETA/24693		
10320830002	BSB-GW-02-090115	SM 4500-NO3 H	WETA/24693		
10320830003	BSB-GW-03-090115	SM 4500-NO3 H	WETA/24693		
10320830004	BSB-GW-04-090115	SM 4500-NO3 H	WETA/24693		
10320830001	BSB-GW-01-090115	ASTM D516	WETA/24700		
10320830002	BSB-GW-02-090115	ASTM D516	WETA/24700		
10320830003	BSB-GW-03-090115	ASTM D516	WETA/24700		
10320830004	BSB-GW-04-090115	ASTM D516	WETA/24700		
10320830001	BSB-GW-01-090115	SM 4500-Cl E	WETA/24665		
10320830002	BSB-GW-02-090115	SM 4500-Cl E	WETA/24665		
10320830003	BSB-GW-03-090115	SM 4500-Cl E	WETA/24665		
10320830004	BSB-GW-04-090115	SM 4500-Cl E	WETA/24665		
10320830001	BSB-GW-01-090115	SM 4500-CN-E	WETA/24658	SM 4500-CN-E	WETA/24666
10320830002	BSB-GW-02-090115	SM 4500-CN-E	WETA/24658	SM 4500-CN-E	WETA/24666
10320830003	BSB-GW-03-090115	SM 4500-CN-E	WETA/24658	SM 4500-CN-E	WETA/24666
10320830004	BSB-GW-04-090115	SM 4500-CN-E	WETA/24658	SM 4500-CN-E	WETA/24666

Pace Analytical™
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10320830
~~103[illegible]~~

Page: 1 of 1

Section A
Required Client Information:

Company:	Pioneer Technical
Address:	40 Spanish Peak Dr. Bozeman, MT 59718
Email To:	jemmert@pioneer-techinical.com
Phone:	406-782-5177
Fax	
Requested Due Date/TAT:	Standard

Section B
Required Project Information:

Report To:	J.D. Emmert
Copy To:	
Purchase Order No.:	
Project Name:	OLD LANDFILL
Project Number:	

Section C
Invoice Information: Dave Schultz

Attention:	~~[illegible]~~ (406-497-6515)
Company Name:	BSB Public Works Dept
Address:	126 W. Granite Butte,MT 59701
Pace Quote Reference:	
Pace Project Manager:	Julie Bowser
Pace Profile #:	22208

REGULATORY AGENCY

☐ NPDES ☒ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MT

Section D
Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	↓Analysis Test↓ Y/N	Cyanide	Nitrate+Nitrite	COD	pH, SC, SO4 and Chloride	8260	Dissolved Metals*	Sulfide						Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	BSB-GW-01- 090115	WT	G	9/1	1013				7										x	x	x	x	x	x								001
2	BSB-GW-02- 090115	WT	G	9/1	1238				6										x	x	x	x	x									002
3	BSB-GW-03- 090115	WT	G	9/1	1540				6										x	x	x	x	x									003
4	BSB-GW-04- 090115	WT	G	9/1	1500				6										x	x	x	x	x									004
5	BSB-GW-07- 090115	WT	G	9/1	1500				3														x									005
6	Trip Blank	WT							2														x									006
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
*Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni, Se, V, Zn	DJ Renz/PTS	9/2/15	13:00	Pace	9/3/15	1000	1.5	Y	~~Y~~ N	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: D. J. Renz
SIGNATURE of SAMPLER: DJ Renz
DATE Signed (MM/DD/YY): 09/02/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 23Feb2015 Page 1 of 1
	Document No.: **F-MN-L-213-rev.13**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pioneer Technical

Project #:

WO# : 10320830

10320830

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 6413 7221 5002

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other:

Temp Blank? ☑ Yes ☐ No

Thermometer Used: ☐ B88A9130516413 ☑ B88A912167504 ☐ B88A0143310098

Type of Ice: ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 1.7 **Cooler Temp Corrected (°C):** 1.5

Temp should be above freezing to 6°C **Correction Factor:** -0.2

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Date and Initials of Person Examining Contents: [illegible] 9/3/15

USDA Regulated Soil (☑ N/A, water sample)

Did samples originate in a quarantine zone within the United States: AL, AR, AZ, CA, FL, GA, ID, LA. MS, NC, NM, NY, OK, OR, SC, TN, TX or WA (check maps)? ☐ Yes ☐ No

Did samples originate from a foreign source (internationally, including Hawaii and Puerto Rico)? ☐ Yes ☐ No

If Yes to either question, fill out a Regulated Soil Checklist (F-MN-Q-338) and include with SCUR/COC paperwork.

				COMMENTS:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☑ Yes	☐ No	☒ N/A	11. Note if sediment is visible in the dissolved container
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☑ Yes	☐ No	☐ N/A	13. 1/1 ☑ HNO_3 1/1 ☑ H_2SO_4 1/1 ☑ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☑ Yes	☐ No	☐ N/A	Sample # 01, 01-04
Exceptions: [✓ VOA], Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☑ Yes	☐ No	☐ N/A	Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☑ No	☐ N/A	14.
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present? Pace Trip Blank Lot # (if purchased): 081115-01	☑ Yes	☐ No	☐ N/A	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Brad Hollamon Date/Time: 9/4/15

Comments/Resolution: Brad emailed requesting that Hg be added to BSB-GW-01-090115.

Project Manager Review: Julie Bue **Date:** 9/3/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers).

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

September 16, 2015

Brad Hollamon
Pioneer Technical Services
1101 S. Montana Street
Butte, MT 59701

RE: Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

Dear Brad Hollamon:

Enclosed are the analytical results for sample(s) received by the laboratory on September 03, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Julie Bowser
julie.bowser@pacelabs.com
Project Manager

Enclosures

cc: Mitch Mihailovich, Pioneer Technical Services

CERTIFICATIONS

Project:	Old Landfill/Clark Tailings
Pace Project No.:	10320840

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

SAMPLE SUMMARY

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10320840001	**BSB-GW-06-090215**	Water	09/02/15 11:17	09/03/15 10:00
10320840002	**BSB-GW-05-090215**	Water	09/02/15 10:22	09/03/15 10:00
10320840003	**BSB-GW-08-090215**	Water	09/02/15 11:19	09/03/15 10:00
10320840004	**BSB-GW-09-090215**	Water	09/02/15 12:30	09/03/15 10:00

SAMPLE ANALYTE COUNT

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10320840001	**BSB-GW-06-090215**	EPA 200.8	TT3	14	PASI-M
		EPA 245.1	LMW	1	PASI-M
		EPA 120.1	JFP	1	PASI-M
		SM 4500-H+B	JFP	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
10320840002	**BSB-GW-05-090215**	EPA 200.8	TT3	14	PASI-M
		EPA 245.1	LMW	1	PASI-M
		EPA 120.1	JFP	1	PASI-M
		SM 4500-H+B	JFP	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
10320840003	**BSB-GW-08-090215**	EPA 200.8	TT3	14	PASI-M
		EPA 245.1	LMW	1	PASI-M
		EPA 120.1	JFP	1	PASI-M
		SM 4500-H+B	JFP	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
10320840004	**BSB-GW-09-090215**	EPA 200.8	TT3	14	PASI-M
		EPA 245.1	LMW	1	PASI-M
		EPA 120.1	JFP	1	PASI-M
		SM 4500-H+B	JFP	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M

PROJECT NARRATIVE

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Dissolved
Client: BPAR-PIONEER-MT
Date: September 16, 2015

General Information:
4 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/57619

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10320840001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 2072913)
  - Zinc, Dissolved
- MSD (Lab ID: 2072914)
  - Zinc, Dissolved

Additional Comments:

PROJECT NARRATIVE

Project:	Old Landfill/Clark Tailings
Pace Project No.:	10320840

Method: **EPA 245.1**
Description: 245.1 Mercury, Dissolved
Client: BPAR-PIONEER-MT
Date: September 16, 2015

General Information:
4 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: MERP/14696

B: Analyte was detected in the associated method blank.
- BLANK for HBN 376606 [MERP/146 (Lab ID: 2072969)
  - Mercury, Dissolved

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

Method: EPA 120.1
Description: 120.1 Specific Conductance
Client: BPAR-PIONEER-MT
Date: September 16, 2015

General Information:
4 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: BPAR-PIONEER-MT
Date: September 16, 2015

General Information:
4 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA recommended holding time.
- BSB-GW-05-090215 (Lab ID: 10320840002)
- BSB-GW-06-090215 (Lab ID: 10320840001)
- BSB-GW-08-090215 (Lab ID: 10320840003)
- BSB-GW-09-090215 (Lab ID: 10320840004)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

Method: **ASTM D516**
Description: ASTM D516 Sulfate Water
Client: BPAR-PIONEER-MT
Date: September 16, 2015

General Information:
4 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/24700

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10320830001,10321856001

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 2078890)
  - Sulfate
- MS (Lab ID: 2078892)
  - Sulfate
- MSD (Lab ID: 2078891)
  - Sulfate
- MSD (Lab ID: 2078893)
  - Sulfate

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

Method: **SM 4500-Cl E**
Description: SM4500Cl-E Chloride
Client: BPAR-PIONEER-MT
Date: September 16, 2015

General Information:
4 samples were analyzed for SM 4500-Cl E. All samples were received in acceptable condition with any exceptions noted below or on the chain-of custody and/or the sample condition upon receipt form (SCUR) attached at the end of this report.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:
Analyte Comments:

QC Batch: WETA/24665

E: Analyte concentration exceeded the calibration range. The reported result is estimated.
- MS (Lab ID: 2076865)
  - Chloride
- MSD (Lab ID: 2076866)
  - Chloride

This data package has been reviewed for quality and completeness and is approved for release.

ANALYTICAL RESULTS

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

Sample: BSB-GW-06-090215 **Lab ID: 10320840001** Collected: 09/02/15 11:17 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	**0.00016J**	mg/L	0.00050	0.00015	1	09/10/15 13:16	09/11/15 08:45	7440-36-0	
Arsenic, Dissolved	**0.0011**	mg/L	0.00050	0.00011	1	09/10/15 13:16	09/11/15 08:45	7440-38-2	
Barium, Dissolved	**0.017**	mg/L	0.00030	0.000081	1	09/10/15 13:16	09/11/15 08:45	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000067	1	09/10/15 13:16	09/11/15 08:45	7440-41-7	
Cadmium, Dissolved	**0.0012**	mg/L	0.000080	0.000024	1	09/10/15 13:16	09/11/15 08:45	7440-43-9	
Chromium, Dissolved	**0.00065**	mg/L	0.00050	0.00017	1	09/10/15 13:16	09/11/15 08:45	7440-47-3	
Cobalt, Dissolved	**0.00080**	mg/L	0.00050	0.00013	1	09/10/15 13:16	09/11/15 08:45	7440-48-4	
Copper, Dissolved	**0.0021**	mg/L	0.0010	0.00021	1	09/10/15 13:16	09/11/15 08:45	7440-50-8	
Iron, Dissolved	ND	mg/L	0.050	0.014	1	09/10/15 13:16	09/11/15 08:45	7439-89-6	
Lead, Dissolved	**0.000052J**	mg/L	0.00010	0.000046	1	09/10/15 13:16	09/11/15 08:45	7439-92-1	
Nickel, Dissolved	**0.049**	mg/L	0.00050	0.00016	1	09/10/15 13:16	09/11/15 08:45	7440-02-0	
Selenium, Dissolved	**0.00021J**	mg/L	0.00050	0.00020	1	09/10/15 13:16	09/11/15 08:45	7782-49-2	
Vanadium, Dissolved	**0.0025**	mg/L	0.0010	0.00028	1	09/10/15 13:16	09/11/15 08:45	7440-62-2	
Zinc, Dissolved	**0.71**	mg/L	0.10	0.048	20	09/10/15 13:16	09/11/15 08:56	7440-66-6	M1
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury, Dissolved	**0.000061J**	mg/L	0.00020	0.000022	1	09/10/15 11:56	09/13/15 18:48	7439-97-6	B
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1650**	umhos/cm	1.0	1.0	1		09/13/15 09:06		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.4**	Std. Units	0.10	0.10	1		09/13/15 12:19		H6
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**757**	mg/L	250	125	100		09/16/15 14:33	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**65.3**	mg/L	5.0	2.3	5		09/14/15 16:11	16887-00-6	

ANALYTICAL RESULTS

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

Sample: BSB-GW-05-090215 **Lab ID: 10320840002** Collected: 09/02/15 10:22 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	**0.00018J**	mg/L	0.00050	0.00015	1	09/10/15 13:16	09/11/15 09:22	7440-36-0	
Arsenic, Dissolved	**0.15**	mg/L	0.00050	0.00011	1	09/10/15 13:16	09/11/15 09:22	7440-38-2	
Barium, Dissolved	**0.021**	mg/L	0.00030	0.000081	1	09/10/15 13:16	09/11/15 09:22	7440-39-3	
Beryllium, Dissolved	**0.00032**	mg/L	0.00020	0.000067	1	09/10/15 13:16	09/11/15 09:22	7440-41-7	
Cadmium, Dissolved	**0.012**	mg/L	0.000080	0.000024	1	09/10/15 13:16	09/11/15 09:22	7440-43-9	
Chromium, Dissolved	**0.00030J**	mg/L	0.00050	0.00017	1	09/10/15 13:16	09/11/15 09:22	7440-47-3	
Cobalt, Dissolved	**0.040**	mg/L	0.00050	0.00013	1	09/10/15 13:16	09/11/15 09:22	7440-48-4	
Copper, Dissolved	**0.0015**	mg/L	0.0010	0.00021	1	09/10/15 13:16	09/11/15 09:22	7440-50-8	
Iron, Dissolved	**15.2**	mg/L	0.050	0.014	1	09/10/15 13:16	09/11/15 09:22	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	09/10/15 13:16	09/11/15 09:22	7439-92-1	
Nickel, Dissolved	**0.034**	mg/L	0.00050	0.00016	1	09/10/15 13:16	09/11/15 09:22	7440-02-0	
Selenium, Dissolved	ND	mg/L	0.00050	0.00020	1	09/10/15 13:16	09/11/15 09:22	7782-49-2	
Vanadium, Dissolved	**0.00042J**	mg/L	0.0010	0.00028	1	09/10/15 13:16	09/11/15 09:22	7440-62-2	
Zinc, Dissolved	**41.9**	mg/L	1.0	0.48	200	09/10/15 13:16	09/11/15 09:42	7440-66-6	
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury, Dissolved	**0.000033J**	mg/L	0.00020	0.000022	1	09/10/15 11:56	09/13/15 18:51	7439-97-6	B
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1530**	umhos/cm	1.0	1.0	1		09/13/15 09:07		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.0**	Std. Units	0.10	0.10	1		09/13/15 12:19		H6
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**770**	mg/L	250	125	100		09/16/15 14:33	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**32.7**	mg/L	2.0	0.93	2		09/14/15 15:52	16887-00-6	

ANALYTICAL RESULTS

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

Sample: BSB-GW-08-090215 **Lab ID: 10320840003** Collected: 09/02/15 11:19 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	ND	mg/L	0.00050	0.00015	1	09/10/15 13:16	09/11/15 09:28	7440-36-0	
Arsenic, Dissolved	**0.0011**	mg/L	0.00050	0.00011	1	09/10/15 13:16	09/11/15 09:28	7440-38-2	
Barium, Dissolved	**0.017**	mg/L	0.00030	0.000081	1	09/10/15 13:16	09/11/15 09:28	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000067	1	09/10/15 13:16	09/11/15 09:28	7440-41-7	
Cadmium, Dissolved	**0.0012**	mg/L	0.000080	0.000024	1	09/10/15 13:16	09/11/15 09:28	7440-43-9	
Chromium, Dissolved	**0.00056**	mg/L	0.00050	0.00017	1	09/10/15 13:16	09/11/15 09:28	7440-47-3	
Cobalt, Dissolved	**0.00037J**	mg/L	0.00050	0.00013	1	09/10/15 13:16	09/11/15 09:28	7440-48-4	
Copper, Dissolved	**0.0021**	mg/L	0.0010	0.00021	1	09/10/15 13:16	09/11/15 09:28	7440-50-8	
Iron, Dissolved	ND	mg/L	0.050	0.014	1	09/10/15 13:16	09/11/15 09:28	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	09/10/15 13:16	09/11/15 09:28	7439-92-1	
Nickel, Dissolved	**0.049**	mg/L	0.00050	0.00016	1	09/10/15 13:16	09/11/15 09:28	7440-02-0	
Selenium, Dissolved	ND	mg/L	0.00050	0.00020	1	09/10/15 13:16	09/11/15 09:28	7782-49-2	
Vanadium, Dissolved	**0.0024**	mg/L	0.0010	0.00028	1	09/10/15 13:16	09/11/15 09:28	7440-62-2	
Zinc, Dissolved	**0.73**	mg/L	0.10	0.048	20	09/10/15 13:16	09/11/15 09:34	7440-66-6	
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury, Dissolved	**0.000057J**	mg/L	0.00020	0.000022	1	09/10/15 11:56	09/13/15 18:58	7439-97-6	B
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1660**	umhos/cm	1.0	1.0	1		09/13/15 09:08		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.4**	Std. Units	0.10	0.10	1		09/13/15 12:20		H6
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**775**	mg/L	250	125	100		09/16/15 14:34	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**65.4**	mg/L	5.0	2.3	5		09/14/15 16:11	16887-00-6	

ANALYTICAL RESULTS

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

Sample: BSB-GW-09-090215 **Lab ID: 10320840004** Collected: 09/02/15 12:30 Received: 09/03/15 10:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	ND	mg/L	0.00050	0.00015	1	09/10/15 13:16	09/11/15 09:36	7440-36-0	
Arsenic, Dissolved	ND	mg/L	0.00050	0.00011	1	09/10/15 13:16	09/11/15 09:36	7440-38-2	
Barium, Dissolved	ND	mg/L	0.00030	0.000081	1	09/10/15 13:16	09/11/15 09:36	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000067	1	09/10/15 13:16	09/11/15 09:36	7440-41-7	
Cadmium, Dissolved	ND	mg/L	0.000080	0.000024	1	09/10/15 13:16	09/11/15 09:36	7440-43-9	
Chromium, Dissolved	**0.00030J**	mg/L	0.00050	0.00017	1	09/10/15 13:16	09/11/15 09:36	7440-47-3	
Cobalt, Dissolved	ND	mg/L	0.00050	0.00013	1	09/10/15 13:16	09/11/15 09:36	7440-48-4	
Copper, Dissolved	**0.00041J**	mg/L	0.0010	0.00021	1	09/10/15 13:16	09/11/15 09:36	7440-50-8	
Iron, Dissolved	ND	mg/L	0.050	0.014	1	09/10/15 13:16	09/11/15 09:36	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	09/10/15 13:16	09/11/15 09:36	7439-92-1	
Nickel, Dissolved	ND	mg/L	0.00050	0.00016	1	09/10/15 13:16	09/11/15 09:36	7440-02-0	
Selenium, Dissolved	ND	mg/L	0.00050	0.00020	1	09/10/15 13:16	09/11/15 09:36	7782-49-2	
Vanadium, Dissolved	ND	mg/L	0.0010	0.00028	1	09/10/15 13:16	09/11/15 09:36	7440-62-2	
Zinc, Dissolved	**0.0059**	mg/L	0.0050	0.0024	1	09/10/15 13:16	09/11/15 09:36	7440-66-6	
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury, Dissolved	**0.000036J**	mg/L	0.00020	0.000022	1	09/10/15 11:56	09/13/15 19:01	7439-97-6	B
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**2.2**	umhos/cm	1.0	1.0	1		09/13/15 09:09		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.9**	Std. Units	0.10	0.10	1		09/13/15 12:21		H6
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	ND	mg/L	2.5	1.2	1		09/16/15 13:57	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	ND	mg/L	1.0	0.46	1		09/14/15 15:41	16887-00-6	

QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

QC Batch: MERP/14696
Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 10320840001, 10320840002, 10320840003, 10320840004

METHOD BLANK: 2072969
Matrix: Water
Associated Lab Samples: 10320840001, 10320840002, 10320840003, 10320840004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	mg/L	0.000032J	0.00020	09/13/15 18:43	

LABORATORY CONTROL SAMPLE: 2072970

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	mg/L	.005	0.0054	107	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2073347 2073348

Parameter	Units	10320840002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	mg/L	0.000033J	.005	.005	0.0050	0.0048	99	95	70-130	4	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

QC Batch: MPRP/57619
Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved
Associated Lab Samples: 10320840001, 10320840002, 10320840003, 10320840004

METHOD BLANK: 2072911
Matrix: Water
Associated Lab Samples: 10320840001, 10320840002, 10320840003, 10320840004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.00050	09/11/15 08:39	
Arsenic, Dissolved	mg/L	ND	0.00050	09/11/15 08:39	
Barium, Dissolved	mg/L	ND	0.00030	09/11/15 08:39	
Beryllium, Dissolved	mg/L	ND	0.00020	09/11/15 08:39	
Cadmium, Dissolved	mg/L	ND	0.000080	09/11/15 08:39	
Chromium, Dissolved	mg/L	ND	0.00050	09/11/15 08:39	
Cobalt, Dissolved	mg/L	ND	0.00050	09/11/15 08:39	
Copper, Dissolved	mg/L	ND	0.0010	09/11/15 08:39	
Iron, Dissolved	mg/L	ND	0.050	09/11/15 08:39	
Lead, Dissolved	mg/L	ND	0.00010	09/11/15 08:39	
Nickel, Dissolved	mg/L	ND	0.00050	09/11/15 08:39	
Selenium, Dissolved	mg/L	ND	0.00050	09/11/15 08:39	
Vanadium, Dissolved	mg/L	ND	0.0010	09/11/15 08:39	
Zinc, Dissolved	mg/L	ND	0.0050	09/11/15 08:39	

LABORATORY CONTROL SAMPLE: 2072912

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	.08	0.084	105	85-115	
Arsenic, Dissolved	mg/L	.08	0.082	103	85-115	
Barium, Dissolved	mg/L	.08	0.083	104	85-115	
Beryllium, Dissolved	mg/L	.08	0.085	106	85-115	
Cadmium, Dissolved	mg/L	.08	0.083	104	85-115	
Chromium, Dissolved	mg/L	.08	0.088	111	85-115	
Cobalt, Dissolved	mg/L	.08	0.086	108	85-115	
Copper, Dissolved	mg/L	.08	0.085	106	85-115	
Iron, Dissolved	mg/L	1	1.1	106	85-115	
Lead, Dissolved	mg/L	.08	0.089	111	85-115	
Nickel, Dissolved	mg/L	.08	0.089	111	85-115	
Selenium, Dissolved	mg/L	.08	0.079	98	85-115	
Vanadium, Dissolved	mg/L	.08	0.089	111	85-115	
Zinc, Dissolved	mg/L	.08	0.081	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2072913 2072914

Parameter	Units	10320840001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	mg/L	0.00016J	.08	.08	0.085	0.083	106	103	70-130	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2072913 2072914

Parameter	Units	10320840001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	0.0011	.08	.08	0.087	0.083	107	103	70-130	4	20	
Barium, Dissolved	mg/L	0.017	.08	.08	0.10	0.099	104	102	70-130	2	20	
Beryllium, Dissolved	mg/L	ND	.08	.08	0.079	0.076	99	95	70-130	4	20	
Cadmium, Dissolved	mg/L	0.0012	.08	.08	0.083	0.082	103	101	70-130	2	20	
Chromium, Dissolved	mg/L	0.00065	.08	.08	0.087	0.086	108	106	70-130	2	20	
Cobalt, Dissolved	mg/L	0.00080	.08	.08	0.086	0.083	106	103	70-130	3	20	
Copper, Dissolved	mg/L	0.0021	.08	.08	0.084	0.081	102	99	70-130	2	20	
Iron, Dissolved	mg/L	ND	1	1	1.1	1.0	105	102	70-130	2	20	
Lead, Dissolved	mg/L	0.000052J	.08	.08	0.085	0.084	106	105	70-130	1	20	
Nickel, Dissolved	mg/L	0.049	.08	.08	0.14	0.13	109	105	70-130	3	20	
Selenium, Dissolved	mg/L	0.00021J	.08	.08	0.078	0.078	98	98	70-130	0	20	
Vanadium, Dissolved	mg/L	0.0025	.08	.08	0.093	0.092	113	111	70-130	2	20	
Zinc, Dissolved	mg/L	0.71	.08	.08	0.75	0.74	56	45	70-130	1	20	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

QC Batch: WET/43965
Analysis Method: EPA 120.1
QC Batch Method: EPA 120.1
Analysis Description: 120.1 Specific Conductance
Associated Lab Samples: 10320840001, 10320840002, 10320840003, 10320840004

METHOD BLANK: 2070428
Matrix: Water
Associated Lab Samples: 10320840001, 10320840002, 10320840003, 10320840004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	1.0	09/13/15 09:05	

LABORATORY CONTROL SAMPLE: 2070429

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	959	96	90-110	

SAMPLE DUPLICATE: 2070430

Parameter	Units	10320840004 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	2.2	2.0	6	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

QC Batch: WET/44080
Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 10320840001, 10320840002, 10320840003, 10320840004

LABORATORY CONTROL SAMPLE: 2076014

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	4.9	98	98-102	H6

SAMPLE DUPLICATE: 2076015

Parameter	Units	10320800002 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.6	7.5	1	3	H6

SAMPLE DUPLICATE: 2076016

Parameter	Units	10320803001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	0	3	H6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

QC Batch: WETA/24700
Analysis Method: ASTM D516
QC Batch Method: ASTM D516
Analysis Description: ASTM D516 Sulfate Water
Associated Lab Samples: 10320840001, 10320840002, 10320840003, 10320840004

METHOD BLANK: 2078887
Matrix: Water
Associated Lab Samples: 10320840001, 10320840002, 10320840003, 10320840004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	09/16/15 13:49	

LABORATORY CONTROL SAMPLE & LCSD: 2078888 2078889

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Sulfate	mg/L	7.5	7.3	7.9	97	105	80-120	7	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078890 2078891

Parameter	Units	10320830001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	188	20	20	194	188	30	1	80-120	3	30	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2078892 2078893

Parameter	Units	10321856001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	113000 ug/L	20	20	141	141	144	141	80-120	1	30	M6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

QC Batch: WETA/24665
Analysis Method: SM 4500-Cl E
QC Batch Method: SM 4500-Cl E
Analysis Description: SM4500Cl-E Chloride
Associated Lab Samples: 10320840001, 10320840002, 10320840003, 10320840004

METHOD BLANK: 2076863
Matrix: Water
Associated Lab Samples: 10320840001, 10320840002, 10320840003, 10320840004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	09/14/15 15:38	

LABORATORY CONTROL SAMPLE: 2076864

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	15	15.8	105	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2076865 2076866

Parameter	Units	10320830001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	59.5	15	15	73.6	72.9	94	89	80-120	1	30	E

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 2076867 2076868

Parameter	Units	10320827009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	16.7	15	15	30.0	30.2	88	90	80-120	1	30	

QUALIFIERS

Project: Old Landfill/Clark Tailings
Pace Project No.: 10320840

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project:	Old Landfill/Clark Tailings
Pace Project No.:	10320840

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10320840001	**BSB-GW-06-090215**	EPA 200.8	MPRP/57619	EPA 200.8	ICPM/26223
10320840002	**BSB-GW-05-090215**	EPA 200.8	MPRP/57619	EPA 200.8	ICPM/26223
10320840003	**BSB-GW-08-090215**	EPA 200.8	MPRP/57619	EPA 200.8	ICPM/26223
10320840004	**BSB-GW-09-090215**	EPA 200.8	MPRP/57619	EPA 200.8	ICPM/26223
10320840001	**BSB-GW-06-090215**	EPA 245.1	MERP/14696	EPA 245.1	MERC/17183
10320840002	**BSB-GW-05-090215**	EPA 245.1	MERP/14696	EPA 245.1	MERC/17183
10320840003	**BSB-GW-08-090215**	EPA 245.1	MERP/14696	EPA 245.1	MERC/17183
10320840004	**BSB-GW-09-090215**	EPA 245.1	MERP/14696	EPA 245.1	MERC/17183
10320840001	**BSB-GW-06-090215**	EPA 120.1	WET/43965		
10320840002	**BSB-GW-05-090215**	EPA 120.1	WET/43965		
10320840003	**BSB-GW-08-090215**	EPA 120.1	WET/43965		
10320840004	**BSB-GW-09-090215**	EPA 120.1	WET/43965		
10320840001	**BSB-GW-06-090215**	SM 4500-H+B	WET/44080		
10320840002	**BSB-GW-05-090215**	SM 4500-H+B	WET/44080		
10320840003	**BSB-GW-08-090215**	SM 4500-H+B	WET/44080		
10320840004	**BSB-GW-09-090215**	SM 4500-H+B	WET/44080		
10320840001	**BSB-GW-06-090215**	ASTM D516	WETA/24700		
10320840002	**BSB-GW-05-090215**	ASTM D516	WETA/24700		
10320840003	**BSB-GW-08-090215**	ASTM D516	WETA/24700		
10320840004	**BSB-GW-09-090215**	ASTM D516	WETA/24700		
10320840001	**BSB-GW-06-090215**	SM 4500-Cl E	WETA/24665		
10320840002	**BSB-GW-05-090215**	SM 4500-Cl E	WETA/24665		
10320840003	**BSB-GW-08-090215**	SM 4500-Cl E	WETA/24665		
10320840004	**BSB-GW-09-090215**	SM 4500-Cl E	WETA/24665		

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bp rm

Laboratory Management Program LaMP Chain of Custody Record

Page 1 of 2

BP Site Node Path:

BP Facility No: Old Landfill/Clark Tailings

Req Due Date (mm/dd/yy): 9/18/15

Rush TAT: Yes ___ No ___

Lab Work Order Number: 10320840

Lab Name: Pace Analytical	Facility Address:	Consultant/Contractor: Pioneer Technical Services
Lab Address: 1700 Elm Street, Suite 200	City, State, ZIP Code:	Consultant/Contractor Project No:
Lab PM: Julie Bowser	Lead Regulatory Agency:	Address: 40 Spanish Peak Drive, Suire 101 Bozeman, MT 59718
Lab Phone: 612-437-2613	California Global ID No.:	Consultant/Contractor PM: J.D. Emmert
Lab Shipping Accnt: 1797-5692-7	Enfos Proposal No:	Phone: 406-782-5177 Email: jemmert@pioneer-technical.com
Lab Bottle Order No:	Accounting Mode: Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To: and to lab.enfosdoc@bp.com
Other Info:	Stage: Activity:	Invoice To: BP x Contractor ___
BP Project Manager (PM):		Report Type & QC Level
BP PM Phone:		Standard x
BP PM Email:		Full Data Package ___

Lab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Water / Liquid	Air / Vapor	Is this location a well?	No. Containers / Preservative: Total Number of Containers	Unpreserved	H2SO4	HNO3 (filtered)	HCl	Methanol		Requested Analyses: Dissolved Metals	(Sb, As, Ba, Be, Cd, Cr,	Co, Cu, Fe, Pb, Ni, Se,	V, Zn)	pH, SC, Chloride, SO4						Comments Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.
	BSB-GW-06-090215	9/2/15	11:17		x			2	1		1				x				x						001
	BSB-GW-05-090215	9/2/15	10:22		x			2	1		1				x				x						002
	BSB-GW-08-090215	9/2/15	11:19		x			2	1		1				x				x						003
	BSB-GW-09-090215	9/2/15	12:30		x			2	1		1				x				x						004

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: DJ Renz	DJ Renz / PTS	9/2	13:00	Cliff Wallace	9-3-15	16:00
Sampler's Company: Pioneer Technical Services						
Shipment Method: Fedex Ship Date: 9/2/15						
Shipment Tracking No: 6341372215002						

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: [✓ Yes] / No | Temp Blank: [✓ Yes] / No | Cooler Temp on Receipt: 3.5 °F/C | Trip Blank: Yes / [✓ No] | MS/MSD Sample Submitted: Yes [✓ No]

Pace Analytical	Document Name: Sample Condition Upon Receipt Form - ESI	Document Revised: 09May2014 Page 1 of 1
	Document No.: F-MN-L-210-rev.12	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt – ESI Tech Specs

Client Name: BP - Pioneer Tech Services

Project #: WO# : 10320840

10320840

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 8058 1698 4697

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☑ Yes ☐ No

Thermom. Used: ☐ B88A9130516413 ☒ B88A912167504 ☐ B88A9132521491 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 3.7 **Cooler Temp Corrected (°C):** 3.5 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C **Correction Factor:** -0.2 **Date and Initials of Person Examining Contents:** BM 9/3/15

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume (triple volume provided for MS/MSD)?	☐ Yes	☐ No	☒ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☒ Yes	☐ No	☒ N/A	11. field filtered, JMB 9/4/15
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☒ Yes	☐ No	☐ N/A	13. 1/1 ☒ HNO₃ ☐ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide)	☒ Yes	☐ No	☐ N/A	Sample # 01-04
Per method, VOA pH is checked after analysis				Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
3 Trip Blanks Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Brad Hollamon Date/Time: 9/4/15

Comments/Resolution: Brad email requesting that Mercury be added.

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: 14:30	Temp: 3.5	Corrected Temp:
Time: 14:50	put in cooler	
Time:	Temp:	Corrected Temp:

Project Manager Review: Julie Bue **Date:** 9/4/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Prep Log Report

Batch Information: MPRP 376591 2008WD

Template Version: F-MN-I-328-Rev.01 (31Aug2015)

Prep Method	EPA 200.8	Analysis Method	EPA 200.8	Extracted By	BT	Extracted By Date	09/10/2015 13:16:15:358
Block ID	10MET10	Thermometer ID	1120709108	Block Temp (C)	96.00	Correction Factor (C)	0
Corrected Temp. (C)	96.00	Digestion Start Time	09/10/2015 09:16:33:166	Digestion End Time	09/10/2015 13:16:40:731	Block End Temp (C)	96
Corrected End Temp. (C)	96.00	Digestion Vessel	52922	Metals Pipette 1		Metals Pipette 2	
Reviewed By		Reviewed By Date		Batch Notes	Pipette: Q284		

Sample Information:

QC Rule	Sample Type	Lab Sample ID	Matrix	Initial Volume (mL)	Conc. HNO3 (mL)	Conc. HCL (mL)	Final Volume (mL)	Sample Notes	6020-SPK (mL)	6020-SPK2 (mL)
2008 WD_P	BLANK	**2072911**	Water	50	60254 (1)	54118 (0.5)	50			
2008 WD_P	LCS	**2072912**	Water	50	60254 (1)	54118 (0.5)	50		49683 (.2)	49681 (.2)
2008 WD_P	PS	**10320840001**	Water	50	60254 (1)	54118 (0.5)	50			
2008 WD_P	MS	**2072913**	Water	50	60254 (1)	54118 (0.5)	50		49683 (.2)	49681 (.2)
2008 WD_P	MSD	**2072914**	Water	50	60254 (1)	54118 (0.5)	50		49683 (.2)	49681 (.2)
2008 WD_P	PS	**10320840002**	Water	50	60254 (1)	54118 (0.5)	50			
2008 WD_P	PS	**10320840003**	Water	50	60254 (1)	54118 (0.5)	50			
2008 WD_P	PS	**10320840004**	Water	50	60254 (1)	54118 (0.5)	50			

Standard Notes:

49681: MIX for ICPMS STD4

49683: Mix for ICPMS STD4

Prep Log Report

Batch Information: MERP 376606 2451WD

Template Version: F-MN-I-342-Rev.01 (03Oct2014)

Prep Method	EPA 245.1
Block ID	10MET02
Corrected Temp. (C)	93.00
Corrected End Temp. (C)	93.00
Metals Pipette 3	

Analysis Method	EPA 245.1
Thermometer ID	
Digestion Start Time	09/10/2015 09:56:27:552
Digestion Vessel	52922
Reviewed By	

Extracted By	BT
Block Temp (C)	95.00
Digestion End Time	09/10/2015 11:56:51:896
Metals Pipette 1	Q284
Reviewed By Date	

Extracted By Date	09/10/2015 11:56:51:896
Correction Factor (C)	-2
Block End Temp (C)	95
Metals Pipette 2	
Batch Notes	Thermometer: 11020709017

Sample Information:

QC Rule	Sample Type	Lab Sample ID	Matrix	Initial Volume (mL)	Conc. HNO3 (mL)	H2SO4 - Conc. (mL)	5% KMnO4 (mL)	5% K2S2O8 (mL)	12% NH2OH*HCL (mL)	Final Volume (mL)	Sample Notes	MERCURY-SPK (mL)
2451 WD_P	BLANK	**2072969**	Water	30	60254 (0.75)	47034 (1.5)	61002 (5)	61185 (2.5)	61258 (1.8)	30		
2451 WD_P	LCS	**2072970**	Water	30	60254 (0.75)	47034 (1.5)	61002 (5)	61185 (2.5)	61258 (1.8)	30		54708 (.15)
2451 WD_P	PS	**10320840001**	Water	30	60254 (0.75)	47034 (1.5)	61002 (5)	61185 (2.5)	61258 (1.8)	30		
2451 WD_P	PS	**10320840002**	Water	30	60254 (0.75)	47034 (1.5)	61002 (5)	61185 (2.5)	61258 (1.8)	30		
2451 WD_P	MS	**2073347**	Water	30	60254 (0.75)	47034 (1.5)	61002 (5)	61185 (2.5)	61258 (1.8)	30		54708 (.15)
2451 WD_P	MSD	**2073348**	Water	30	60254 (0.75)	47034 (1.5)	61002 (5)	61185 (2.5)	61258 (1.8)	30		54708 (.15)
2451 WD_P	PS	**10320840003**	Water	30	60254 (0.75)	47034 (1.5)	61002 (5)	61185 (2.5)	61258 (1.8)	30		
2451 WD_P	PS	**10320840004**	Water	30	60254 (0.75)	47034 (1.5)	61002 (5)	61185 (2.5)	61258 (1.8)	30		

Standard Notes:

54708: Hg SPK

PIONEER
TECHNICAL SERVICES, INC.

County Silver Bow
Facility & # 20
Closure
Finan Assur
GW ~~Corr Meas~~
[✓ GW Monitoring]
~~GW Reports~~
Inspections
Other:
Landfarm
Liner
Methane
O & M
Run-on

May 29, 2015

Mr. John Collins
Montana DEQ/Solid Waste Program
P.O. Box 200901
Helena, Montana 59620-0901

RE: Old Butte-Silver Bow County Landfill/Clark T

Dear John:

Enclosed are results from the Old Butte-Silver Bow County Landfill/Clark Tailings March 2015 semi-annual groundwater monitoring event. The following have been included for your information:

- March 2015 sampling summary;
- Table 1 analytical data summary;
- Table oldlfctmar15 (non-parametric comparison of wells);
- Groundwater field parameters collected in the field;
- Copy of field notes;
- Trend graphs of detected compounds;
- Groundwater potentiometric surface map for March 2015; and
- Analytical data from Pace Laboratories in Minneapolis, Minnesota.

The calculated Confidence Level of 97.6 % was found using the formula n/(n+k), where n is the total number of background samples collected and k is the number of future sampling events (Section 4.2.1 Non-Parametric Prediction Intervals, Pages 61-63 and Table A-7, Appendix A; Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities; Addendum to Interim Final Guidance; and Office of Solid Waste Permits and State Programs Division, U.S. EPA, July 1992).

The groundwater velocity was calculated using Darcy's Law and the equation for the seepage velocity. The average groundwater velocity for March 2015 sampling event was 0.24 feet per day (ft/day). The hydraulic conductivity value used to obtain the groundwater velocity was obtained from the *Corrective Measures Assessment Report* (Pioneer, April 2009) and from the March 2009 pumping data.

Sincerely,

Brad Hollam

Brad Hollamon
Senior Technician

PIONEER
TECHNICAL SERVICES, INC.

ORIGINAL

RECEIVED
JUN 02 2015
DEPT. OF ENVIRO. QUALITY
WASTE & UNDERGROUND TANK
MANAGEMENT BUREAU

May 29, 2015

Mr. John Collins
Montana DEQ/Solid Waste Program
P.O. Box 200901
Helena, Montana 59620-0901

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Sincerely,

Brad Hollamon
Senior Technician

HEADQUARTERS: PO BOX 3445 • BUTTE, MT 59702 | PH: 406.782.5177 • FX: 406.782.5866 | WWW.PIONEER-TECHNICAL.COM
ANACONDA • BILLINGS • BOZEMAN • HELENA • MISSOULA • EVANSTON, WY • KELLOGG, ID

RT
RECEIVED
JUN 02 2015
DEPT. OF ENVIRO. QUALITY
WASTE & UNDERGROUND TANK
MANAGEMENT BUREAU

Encl.

cc: Dave Schultz, BSB Landfill Manager
Mitch Mihailovich, Pioneer
Loren Burmeister, Atlantic Richfield (electronic copy)
Cord Harris, Atlantic Richfield (w/o enc. – email)
Terry Moore, Atlantic Richfield (w/o enc. – email)
Ann Baranowski, Atlantic Richfield (Central Files 70.04.25.16 – electronic copy)

OLD SILVER BOW LANDFILL
MARCH 2015 GROUNDWATER MONITORING

The March 2015 sampling event at the Old Butte-Silver Bow Landfill included sampling in accordance with the modified assessment-monitoring program. Table 1, attached, summarizes the analytical results. The discussion below compares these data to previous results and to current Maximum Contaminant Levels (MCLs) and Montana Human Health Standards (HHSs).

Well MBMG-2 (up gradient):

In accordance with the modified assessment-monitoring program, semi-volatiles, chlorinated acids, and pesticides were not collected in the well during this sampling event. Two volatile compounds were detected below the Reporting Limit during this sampling event, Toluene at (0.49 J ug/L) and o-Xylene at (0.25 J ug/L). Metals that were detected below the maximum background concentrations are; As (.0013 mg/L), Ba (0.130 mg/L), Cr (0.00026 J mg/L), Cu (0.0019 mg/L), Ni (0.00034 J mg/L), Se (0.00063 mg/l) and V (0.0072 mg/l). There were no metals detected above the maximum background concentrations during this sampling event. Nitrate/nitrite (2.90 mg/L), Chloride (48 mg/l), and Sulfate (139 mg/L) were detected at concentrations below the maximum background. No MCL or HHS exceedences were observed in this well during this sampling event.

Well BSB-A1 (North):

In accordance with the modified assessment-monitoring program, semi-volatile, chlorinated acids, pesticides and a sample for metals analyses were not collected from this well.
There were no inorganic or volatile compounds detected at levels above maximum baseline or above maximum background in this well during this sampling event.
No MCL or HHS exceedences were observed in this well during this sampling event.

Well BSB-A5 (Northeast Well):

In accordance with the modified assessment-monitoring program, semi-volatile, chlorinated acids, pesticides and a sample for metals analyses were not collected from this well.
One volatile compound cis-1,2-Dichloroethene (2.3 μg/L) was detected at levels above maximum background in this well during this sampling event.
Sulfate detected at 704 mg/L exceeds maximum background concentration.
Sulfate also exceeds the secondary USEPA MCL of 250 mg/L.

Well BSB-A6-R (Central Well):

Well BSB-A6-R is the replacement well for BSB-A6, removed during the construction of Timber Butte Youth Park. Thirteen volatile organic compounds (VOC's) were detected in this well; seven of the thirteen were detected at levels below the quantification limit. The thirteen volatile organic compounds were as follows:

- Benzene (0.62 J ug/L);
- 1,4-Dichlorobenzene (1.30 ug/L); exceeds maximum background.
- Dichlorodifluoromethane (1.60 ug/L); exceeds maximum background.
- 1,1-Dichloroethane (1.30 ug/L); exceeds maximum background.
- Cis-1,2-DCE (2.70 ug/L); exceeds maximum background.
- 1,2-Dichloropropane (0.54 J ug/L);
- Ethylbenzene (0.63 J ug/L);
- Styrene (0.13 J ug/L);
- Tetrachloroethene (0.24 J ug/L);
- Toluene (0.35 J ug/L);
- Trichloroethene (0.23 J ug/L);
- Vinyl Chloride (1.4 ug/L); exceeds maximum background.
- O-Xylene 1.7 ug/L

Vinyl Chloride exceeds the MDEQ-7 HHS standard of 0.2 ug/L.

In accordance with the modified assessment-monitoring program, semi-volatile, chlorinated acids, pesticides and a sample for metals analyses were not collected from this well.
Sulfate (2310 mg/L) and COD (612 mg/L) exceeded maximum background concentrations. Sulfate exceeds the secondary USEPA MCL of 250 mg/L.
Chloride (80 mg/L) exceeds both maximum baseline and maximum background concentration.
Nitrate/Nitrite (0.44 mg/L) exceeds maximum base line concentration of 0.32 mg/L.

Well CLK-1 (Clark Tailings East Well):

In accordance with the modified assessment-monitoring program, no samples for organic analyses were collected from this well. Metals detected above maximum background but below maximum baseline are; arsenic (0.097 mg/L); cadmium (0.015 mg/L); cobalt (0.043 mg/L), iron (13.8 mg/L), nickel (0.038 mg/L) and zinc (51.1 mg/L). Arsenic, cadmium, iron and zinc exceed US EPA MCL or Montana HHS standards.
Sulfate was detected at a concentration of 926 mg/L, which exceeds the maximum background and the secondary MCL for this compound.

Well CLK-2 (Clark Tailings North Well):

In accordance with the modified assessment-monitoring program, no samples for organic analyses were collected from this well. Cadmium (0.0012 mg/L), Nickel (0.041 mg/L) and Zinc (0.620 mg/L) were all detected above maximum background but below maximum baseline.
Sulfate was detected at a concentration of 723 mg/L, which exceeds the maximum background and the secondary MCL for this compound.
Chloride was also detected above the maximum background during this sampling event at a concentration of 77 mg/L.

Conclusion:

The March 2015 sampling event at the Old Butte-Silver Bow Landfill included sampling according to the modified assessment-monitoring program (see Table 1 for analytical data). The results for metals, inorganics, and organic contaminants obtained from this sampling event were comparable to previous results.

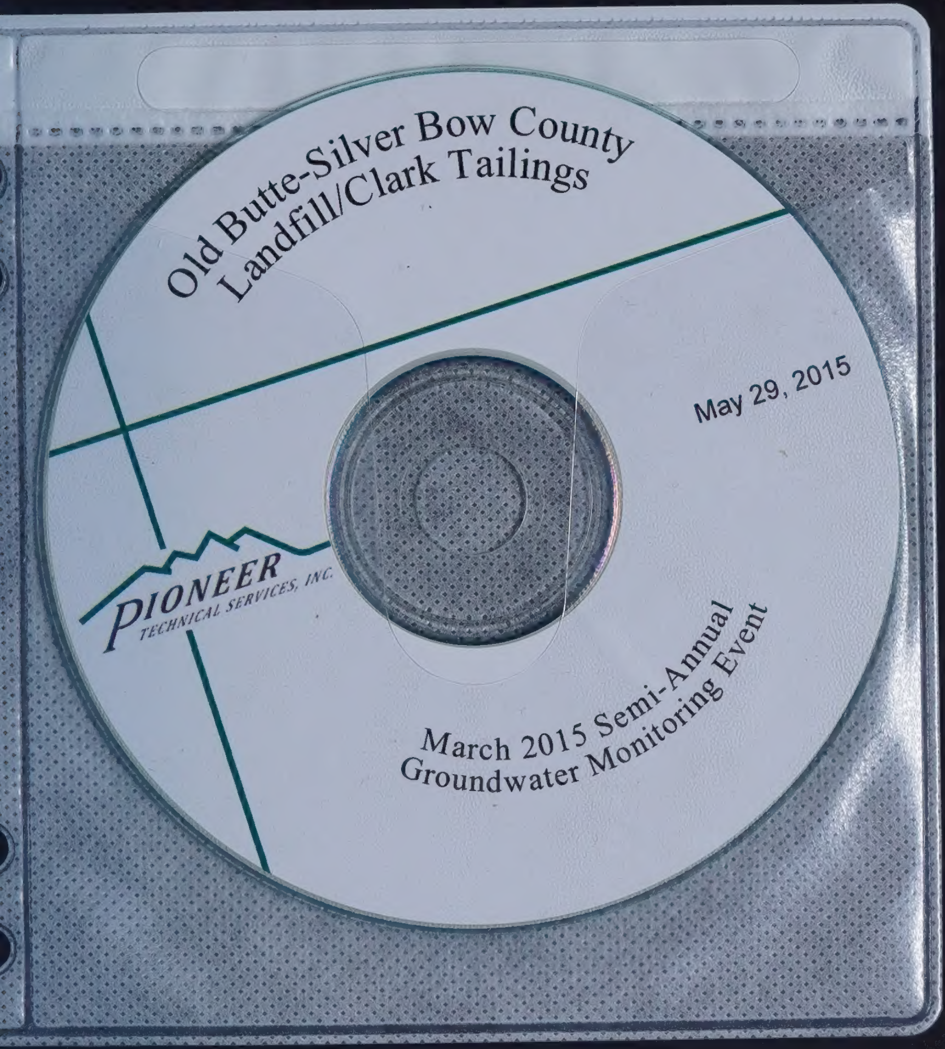
SAMPLE NUMBER WELL ANALYTE (units):	BSB-GW-O1 MBMG-2	BSB-GW- BSB-A	08 PE	BSB-GW-O9 Field Blank Trip Blank	GW PROTECTION STANDARDS USEPA MCL*	 MONTANA HHS
DISSOLVED METALS (mg/L)						
Antimony	< 0.0005	S	.0005	< 0.0005	0.006	0.014
Arsenic	0.0013	S	.0011	< 0.0005	0.05	0.01
Barium	0.13	S	.017	< 0.0003	2	2
Beryllium	< 0.00020	S	.0002	< 0.0002	0.004	0.004
Cadmium	< 0.00008	S	.0012	< 0.00008	0.005	0.005
Chromium	(Pace 0.00026 J)< 0.0005	S	.00050	< 0.0005	0.1	0.1
Cobalt	< 0.0005	S	.00050	< 0.0005	---	---
Copper	0.0019	S	.0026	(Pace 0.00047 J)< 0.001	1.3 (a)	1.3
Iron	< 0.05	S	.050	(Pace 0.012 J)< 0.050	0.3(s)	0.3
Lead	< 0.00010	S	.00010	< 0.0001	0.015 (a)	0.015
Mercury	(Pace 0.000042 J)< 0.0002	S	.0002	NR	0.002	0.002
Nickel	(Pace 0.00034 J)< 0.0005	S	.0410	< 0.0005	0.1	0.1
Selenium	0.00063	S	.0005	< 0.0005	0.05	0.05
Silver	NR	S	IR	NR	0.1	0.1
Thallium	NR	S	IR	NR	0.002	0.002
Tin	NR	S	IR	NR		
Vanadium	0.0072	S	.0023	< 0.001	---	---
Zinc	< 0.0050	S	.600	< 0.005	5	2
INORGANICS (mg/L)						
Chloride	48	2	0	< 1.0	250	---
COD	(Pace 16.2 J)< 50.0	< 5	IR	SA	---	---
Conductivity (umhos/cm)	804	5	750	2.8	---	---
Cyanide	< 0.010	0	IR	NR	---	0.2
Nitrate\Nitrite - N	2.9	0	IR	NR	10	10
pH	6.1	6	.0	6.7		
Sulfate	139	7	97	< 2.5	250	---
Sulfide	< 5.0	< 5	IR	NR		
EPA METHOD 8260 (ug/L)						
Acetone	< 20.0	< 2	A	< 20.0	---	---
Benzene	< 1.0	< 1	A	< 1.0	5	5
Carbon Disulfide	< 1.0	< 1	A	< 1.0	---	---
Chloroethane	< 1.0	< 1	A	< 1.0	---	---
Chloroform	< 1.0	< 1	A	< 1.0	---	70
Chlormethane	< 4.0	< 4	A	< 4.0	---	---
1,4-Dichlorobenzene	< 1.0	< 1	A	< 1.0	75	75
Dichlorodiflouromethane	< 1.0	< 1	A	< 1.0	---	1000
1,1-Dichloroethane	< 1.0	< 1	A	< 1.0	---	---
1,2-Dichloroethane	< 1.0	< 1	A	< 1.0	5	4
cis-1,2-Dichloroethene	< 1.0	(Pace 0.31 J)< 1	A	< 1.0	70	70
trans-1,2-Dichloroethene	< 1.0	< 1	A	< 1.0	100	100
Ethylbenzene	< 1.0	(Pace 0.38 J)< 1	A	< 1.0		
1,2-Dichloropropane	< 4.0	< 4	A	< 4.0	5	5
4-Isopropyltoluene	NR	N	A	NR	---	---
Methylene Chloride	< 4.0	< 4	A	< 4.0	5	30
Naphthalene	NR	N	A	NR	---	100
Tetrachloroethene	< 1.0	< 1	A	< 1.0	5	5
Trichloroethene	< 0.4	(Pace 0.11 J)< 0	A	< 0.4	5	5
1,2,4-Trimethylbenzene	NR	N	A	NR	---	---
Vinyl Chloride	< 0.4	< 0	A	< 0.4	2	0.2
EPA METHOD 8270 (ug/L)						
bis(2-ethylhexyl)Phthalate	SA	S	A	SA	6	6
EPA METHOD 8151 (ug/L)						
Picloram	SA	S	A	SA		
Dicamba	SA	S	A	SA		
2,4,5-TP (Silvex)	SA	S	A	SA		
2,4-D	SA	S	A	SA		
EPA METHOD 8081 (ug/L)	SA	S	A	SA		
EPA METHOD 8082 (ug/L)	SA	S	A	SA		

* MCL definitions: a = action level, not an MCL; s = secondary MCL (aesthetics)
NA = Not enough sample available for analysis
NR = Analysis Not Requested
ND = Analyte Not Detected
J = Estimated Quantity. Anlyte present, but less than the practical quantitation limit (PQL).
NS= Sample Not Collected (Dry Well-BSB-A5)
SA = Sample Not Taken

TABLE I: ANALYTICAL DATA FOR GROUNDWATER SAMPLES, OLD SILVER BOW COUNTY LANDFILL
DATE SAMPLED: March 17, 2015

SAMPLE NUMBER	BSB-GW-O1	BSB-GW-O2	BSB-GW-O3	BSB-GW-O4	BSB-GW-O5	BSB-GW-O6	BSB-GW-07	BSB-GW-08	BSB-GW-O9	GW PROTECTION STANDARDS	
WELL	MBMG-2	BSB-A1	BSB-A5	BSB-A6-R	CLK-1	CLK-2	BSB-A6R DUPE	CLK-2 DUPE	Field Blank	USEPA	MONTANA
ANALYTE (units):									Trip Blank	MCL*	HHS
DISSOLVED METALS (mg/L)											
Antimony	< 0.0005	SA	SA	SA	< 0.0005	< 0.0005	SA	< 0.0005	< 0.0005	0.006	0.014
Arsenic	0.0013	SA	SA	SA	0.097	0.0011	SA	0.0011	< 0.0005	0.05	0.01
Barium	0.13	SA	SA	SA	0.022	0.017	SA	0.017	< 0.0003	2	2
Beryllium	< 0.00020	SA	SA	SA	0.00040	< 0.0002	SA	< 0.0002	< 0.0002	0.004	0.004
Cadmium	< 0.00008	SA	SA	SA	0.015	0.00120	SA	0.0012	< 0.00008	0.005	0.005
Chromium	(Pace 0.00026 J)< 0.0005	SA	SA	SA	< 0.0005	(Pace 0.00040 J)< 0.0005	SA	(Pace 0.00034 J)< 0.00050	< 0.0005	0.1	0.1
Cobalt	< 0.0005	SA	SA	SA	0.043	(Pace 0.00032 J)< 0.0005	SA	(Pace 0.00036 J)< 0.00050	< 0.0005	- - -	- - -
Copper	0.0019	SA	SA	SA	(Pace 0.00052 J)< 0.0010	0.0028	SA	0.0026	(Pace 0.00047 J)< 0.001	1.3 (a)	1.3
Iron	< 0.05	SA	SA	SA	13.8	0.055	SA	< 0.050	(Pace 0.012 J)< 0.050	0.3(s)	0.3
Lead	< 0.00010	SA	SA	SA	Pace 0.000048 J)< 0.00010	< 0.00010	SA	< 0.00010	< 0.0001	0.015 (a)	0.015
Mercury	(Pace 0.000042 J)< 0.0002	SA	SA	SA	< 0.0002	< 0.0002	SA	< 0.0002	NR	0.002	0.002
Nickel	(Pace 0.00034 J)< 0.0005	SA	SA	SA	0.038	0.0410	SA	0.0410	< 0.0005	0.1	0.1
Selenium	0.00063	SA	SA	SA	< 0.0005	< 0.0005	SA	< 0.0005	< 0.0005	0.05	0.05
Silver	NR	SA	SA	SA	NR	NR	SA	NR	NR	0.1	0.1
Thallium	NR	SA	SA	SA	NR	NR	SA	NR	NR	0.002	0.002
Tin	NR	SA	SA	SA	NR	NR	SA	NR	NR		
Vanadium	0.0072	SA	SA	SA	(Pace 0.00037 J)< 0.001	0.0023	SA	0.0023	< 0.001	- - -	- - -
Zinc	< 0.0050	SA	SA	SA	51.1	0.620	SA	0.600	< 0.005	5	2
INORGANICS (mg/L)											
Chloride	48	20	32	80	33	77	SA	80	< 1.0	250	- - -
COD	(Pace 16.2 J)< 50.0	< 50.0	(Pace 47.7 J)< 50.0	612	NR	NR	SA	NR	SA	- - -	- - -
Conductivity (umhos/cm)	804	511	1390	3460	1710	1720	SA	1750	2.8	- - -	- - -
Cyanide	< 0.010	0.010	Pace 0.0096 J)< 0.010	0.015	NR	NR	SA	NR	NR	- - -	0.2
Nitrate\Nitrite - N	2.9	0.32	1.6	0.44	NR	NR	SA	NR	NR	10	10
pH	6.1	6.2	5.1	5.4	5.7	6.0	SA	6.0	6.7		
Sulfate	139	79.0	704	2310	926	723	SA	697	< 2.5	250	- - -
Sulfide	< 5.0	< 5.0	11	67.0	NR	NR	SA	NR	NR		
EPA METHOD 8260 (ug/L)											
Acetone	< 20.0	< 20.0	< 20.0	< 20.0	SA	SA	< 20.0	SA	< 20.0	- - -	- - -
Benzene	< 1.0	< 1.0	< 1.0	(Pace 0.68 J)< 1.0	SA	SA	(Pace 0.62 J)< 1.0	SA	< 1.0	5	5
Carbon Disulfide	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	- - -	- - -
Chloroethane	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	- - -	- - -
Chloroform	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	- - -	70
Chlormethane	< 4.0	< 4.0	< 4.0	< 4.0	SA	SA	< 4.0	SA	< 4.0	- - -	- - -
1,4-Dichlorobenzene	< 1.0	< 1.0	< 1.0	1.3	SA	SA	1.4	SA	< 1.0	75	75
Dichlorodiflouromethane	< 1.0	< 1.0	< 1.0	1.6	SA	SA	1.7	SA	< 1.0	- - -	1000
1,1-Dichloroethane	< 1.0	< 1.0	(Pace 0.0.18 J)< 1.0	1.3	SA	SA	1.3	SA	< 1.0	- - -	- - -
1,2-Dichloroethane	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	5	4
cis-1,2-Dichloroethene	< 1.0	(Pace 0.31 J)< 1.0	2.3	2.7	SA	SA	2.8	SA	< 1.0	70	70
trans-1,2-Dichloroethene	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	100	100
Ethylbenzene	< 1.0	(Pace 0.38 J)< 1.0	< 1.0	(Pace 0.63 J)< 1.0	SA	SA	(Pace 0..64 J)< 1.0	SA	< 1.0		
1,2-Dichloropropane	< 4.0	< 4.0	< 4.0	(Pace 0.54 J)< 4.0	SA	SA	< 4.0	SA	< 4.0	5	5
4-Isopropyltoluene	NR	NR	NR	NR	SA	SA	NR	SA	NR	- - -	- - -
Methylene Chloride	< 4.0	< 4.0	< 4.0	< 4.0	SA	SA	< 4.0	SA	< 4.0	5	30
Naphthalene	NR	NR	NR	NR	SA	SA	NR	SA	NR	- - -	100
Tetrachloroethene	< 1.0	< 1.0	(Pace 0.0.59 J)< 1.0	(Pace 0.24 J)< 1.0	SA	SA	(Pace 0.22 J)< 1.0	SA	< 1.0	5	5
Trichloroethene	< 0.4	(Pace 0.11 J)< 0.4	(Pace 0.0.37 J)< 0.4	(Pace 0.23 J)< 0.4	SA	SA	(Pace 0.26 J)< 0.4	SA	< 0.4	5	5
1,2,4-Trimethylbenzene	NR	NR	NR	NR	SA	SA	NR	SA	NR	- - -	- - -
Vinyl Chloride	< 0.4	< 0.4	< 0.4	1.4	SA	SA	1.6	SA	< 0.4	2	0.2
EPA METHOD 8270 (ug/L)											
bis(2-ethylhexyl)Phthalate	SA	SA	SA	SA	SA	SA	SA	SA	SA	6	6
EPA METHOD 8151 (ug/L)											
Picloram	SA	SA	SA	SA	SA	SA	SA	SA	SA		
Dicamba	SA	SA	SA	SA	SA	SA	SA	SA	SA		
2,4,5-TP (Silvex)	SA	SA	SA	SA	SA	SA	SA	SA	SA		
2,4-D	SA	SA	SA	SA	SA	SA	SA	SA	SA		
EPA METHOD 8081 (ug/L)	SA	SA	SA	SA	SA	SA	SA	SA	SA		
EPA METHOD 8082 (ug/L)	SA	SA	SA	SA	SA	SA	SA	SA	SA		

* MCL definitions: a = action level, not an MCL; s = secondary MCL (aesthetics)
NA = Not enough sample available for analysis
NR = Analysis Not Requested
ND = Analyte Not Detected
J = Estimated Quantity. Anlyte present, but less than the practical quantitation limit (PQL).
NS= Sample Not Collected (Dry Well-BSB-A5)
SA = Sample Not Taken



Old Butte-Silver Bow County
Landfill/Clark Tailings

May 29, 2015

PIONEER
TECHNICAL SERVICES, INC.

March 2015 Semi-Annual
Groundwater Monitoring Event

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: BSB old landfill

WELL/STATION MGMB-2 DATE 3/17/15 TIME 900

SAMPLERS T. Hickey, D. Renz WEATHER CONDITIONS overcast, cool 35° F

PHOTO: Yes ______ No X ROLL# N/A NUMBER N/A

PURGE DATA:

PURGE METHOD 120 Volt Grundfoss

START PURGING 910

PURGE RATE 800 ~~GPM~~ mL/min

RATE CHANGE 1) Time ______ Rate ________

2) Time ______ Rate ________

SAMPLE TIME 9:50

WELL DEPTH 23.20 Feet

DEPTH TO WATER 11.65 Feet

COLUMN DEPTH 11.55 Feet

CASING DIAMETER 2 Inch

PUMP SET AT 20 Feet

3 WELL VOLUMES 5.775 Gallons

TOTAL PURGE VOLUME 5.75 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-01-031715	250mL	X	HNO3	Dissolved Metals
" " " "	500mL		NaOH/ZnA	Sulfide
" " " "	40mL		HCl	VOC'S
" " " "	1L		Raw	pH, SC, SO4, Cl-
	250mL		NaOH	cyanide

250mL H2SO4 COD/NO2/NO3

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
938	4.25	7.07	6.90	684	321.9	5.67
941	4.75	7.06	6.90	686	318.3	5.69
943	5.00	7.05	6.89	690	314.6	5.61
945	5.25	7.05	6.89	693	311.7	5.62
947	5.45	7.05	6.89	696	308.7	5.58
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
950	5.75	7.05	6.88	696	307.4	5.64

FIELD REMARKS: ______________________________

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: BSB Old Landfill

WELL/STATION BSB-A1 DATE 3/17/15 TIME 1010

SAMPLERS DL, TH WEATHER CONDITIONS overcast Light Rain 35F

PHOTO: Yes ______ No NO ROLL# X NUMBER X

PURGE DATA:

PURGE METHOD	120 unit grundfoss	WELL DEPTH	52.53 Feet
START PURGING	1020	DEPTH TO WATER	35.70 Feet
PURGE RATE	300 ~~GPM~~ mL/min	COLUMN DEPTH	16.83 Feet
RATE CHANGE	1) Time ______ Rate ______	CASING DIAMETER	2" Inch
	2) Time ______ Rate ______	PUMP SET AT	48 Feet
		3 WELL VOLUMES	8.415 Gallons
SAMPLE TIME	1155	TOTAL PURGE VOLUME	8.45 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-02-031715	~~250 mL~~	~~X~~ DR	~~HNO3~~	~~Dissolved Metals~~
	250 mL		NaOH	Cyanide
	250 mL		H2SO4	COD, NO2, NO3
	40 ml		HCL	VOC's
	500 mL		NaOH/Zn	Sulfides
	1L		RAW	PH, SC, SO4, CL-

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1145	8.0	11.19	6.81	434	222.7	0.50
1147	8.15	11.20	6.82	435	221.4	0.56
1150	8.25	11.23	6.82	435	220.2	0.66
1152	8.35	11.18	6.82	436	219.6	0.67
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1155	8.45	11.22	6.82	437	218.9	0.58

FIELD REMARKS: ____________________

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: BSB-old landfill

WELL/STATION BSB-AS

DATE 3/17/15

TIME 1105

SAMPLERS DL, TH

WEATHER CONDITIONS Overcast, Rain, 38°F

PHOTO: Yes ______ No [✓ No]

ROLL# N/A

NUMBER N/A

PURGE DATA:

PURGE METHOD Bailer

START PURGING 1120

PURGE RATE Bail GPM

RATE CHANGE 1) Time ______ Rate ______

2) Time ______ Rate ______

SAMPLE TIME 15:10

WELL DEPTH 45.80 Feet

DEPTH TO WATER 43.60 Feet

COLUMN DEPTH ______ Feet

CASING DIAMETER 2 Inch

PUMP SET AT Bail Feet

3 WELL VOLUMES 1.1 Gallons

TOTAL PURGE VOLUME 1.4 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-03-031715	250ml		H2SO4	COD, NO2, NO3
	250ml		NaOH	Cyanide
	40m		HCL	VOC's
	500mL		NaOH, Zn	Sulfides
	1L		Raw	PH, SC, SO4, CL-

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
		8.91				
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1510		~~5.24~~ DL	5.24	1,264	215.0	8.20

FIELD REMARKS: 1125 Bail 1.4 gallon From BSB/AS

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: BSB Old Landfill
WELL/STATION BSB-BGR
DATE 3/17/15
TIME 1230
SAMPLERS TH, DR
WEATHER CONDITIONS Overcast/Rain
PHOTO: Yes ______ No X
ROLL# N/A
NUMBER N/A.

PURGE DATA:

PURGE METHOD 120 volt Grundfoss
START PURGING 1240
PURGE RATE 150 ~~300~~ ~~GPM~~ mL/min
RATE CHANGE 1) Time ______ Rate ______
2) Time ______ Rate ______
SAMPLE TIME 1440

WELL DEPTH 59.75 Feet
DEPTH TO WATER 52.35 Feet
COLUMN DEPTH 7.4 Feet
CASING DIAMETER 2" Inch
PUMP SET AT ______ Feet
3 WELL VOLUMES 3.7 Gallons
TOTAL PURGE VOLUME 4.75 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-04-031715	250mL		NaOH	Cyanide
	250 mL		H2SO4	COD, NO2, NO3
	40mL		HCl	VOC'S
	500 mL		NaOH, Zn	Sulfides
	1L		RAW	PH, SC, SO4, Cl-

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1430		10.76	6.00	3164	73.0	1.07
1432		10.79	6.00	3165	71.6	1.09
1434		10.84	6.00	3166	70.5	1.10
1436		10.86	6.01	3166	69.5	1.10
1438		10.90	6.01	3166	68.1	1.13
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1440		10.91	6.01	3166	67.1	1.14

FIELD REMARKS: * Also collected BSB-GW-07-031715 Duplicate of BSB-GW-04-031715 VOC'S. *

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page 1 of 1

Project Name: BSB Old landfill Clark tailing

WELL/STATION CIK-1

DATE 3/18/15

TIME 10:00

SAMPLERS TH, DR

WEATHER CONDITIONS 38° Partly Cloudy

PHOTO: Yes ______ No ______

ROLL# NA

NUMBER NA

PURGE DATA:

PURGE METHOD 12V Submersible

START PURGING ____________

PURGE RATE ________ GPM

RATE CHANGE 1) Time ______ Rate ________

2) Time ______ Rate ________

SAMPLE TIME 1040

WELL DEPTH 19.0' Feet

DEPTH TO WATER 4.9 Feet

COLUMN DEPTH 14.1 Feet

CASING DIAMETER 2" Inch

PUMP SET AT ______ Feet

3 WELL VOLUMES 7.05 Gallons

TOTAL PURGE VOLUME 18 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-05-031815	1L		RAW	SC/PH/SO_4/CL-
" ——— ——— "	250mL	X	HNO_3	Dissolved Metals

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1023	7.00	7.17	6.50	1595	46.8	0.36
1025		7.19	6.43	1604	45.3	0.36
1027		7.22	6.38	1612	46.3	0.53
1029		7.21	6.35	1619	47.3	0.66
1031	14 gallons	7.24	6.30	1628	49.9	0.80
1033		7.27	6.28	1634	50.8	0.59
1035		7.26	6.28	1639	51.4	0.48
1037		7.26	6.25	1645	53.2	0.43
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1040		7.24	6.25	1648	54.3	0.36

FIELD REMARKS: ____

FIELD SAMPLE DATA SHEET

Page 1 of 1

Project Name: BSB Old Landfill /Clark Tailings

WELL/STATION CIK-2 DATE 3/18/15 TIME 11:05

SAMPLERS TH, DR WEATHER CONDITIONS 38° PCloudy

PHOTO: Yes ______ No x ROLL# – NUMBER ______

PURGE DATA:

PURGE METHOD 12V Submersible

START PURGING 11:20

PURGE RATE 0.75 ~~GPM~~ LPM

RATE CHANGE 1) Time ______ Rate ______

2) Time ______ Rate ______

SAMPLE TIME 11:45

WELL DEPTH 46.90 Feet

DEPTH TO WATER 40.88 Feet

COLUMN DEPTH 6.02 Feet

CASING DIAMETER 2 Inch

PUMP SET AT – Feet

3 WELL VOLUMES 3.01 Gallons

TOTAL PURGE VOLUME 6.9 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-06-031815	250mL	X	HNO3	Dissolved metals
	1L		RAW	pH, SC, CL-, SO4

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1130		9.37	6.29	1611	216.9	1.93
1133		9.27	6.28	1608	217.5	1.84
1135		9.41	6.27	1607	217.9	1.90
1137		9.31	6.27	1609	218.4	1.84
1139		9.27	6.27	1609	219.1	1.84
1142		9.34	6.27	1609	219.3	1.86
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1145		9.36	6.26	1610	219.7	1.76

FIELD REMARKS: Also collect BSB-GW-08-031815 Duplicate of BSB-GW-~~08~~ 06-031815

Pioneer Technical Services

12/17/14 New landfill

1530 Deliver 2 coolers to FeDex to ship samples to pace.

1600 PTS Done and finished landfill sampling

DJ Rem
12/17/14

~~4~~ 03/17/15 BSB Old Landfill

820 calibiater Meters @ Lower Area 2
Ph 4.01 — 4.01
SC 1413 @ 18.5°C
DO 100% Saturation
ORP 400 RMU @ 25°C

0900 Arrive @ MGMB-2

TD = 23.20'
DTW = 11.65'
Column Depth = 11.55'
Case Ø = 2"
pump Set@ = 20.0'
3 well volumes = 5.775 gallons

0910 Begin purging MGMB-2 @ 800 mL/Min

0938 Begin ~~ff~~ collecting field parameters

0950 collect BSB-GW-01-031715
1-250mL HDPE HNO3 Dissolved metals
1-500mL HDPE NaOH/Zn Sulfide
1-1L HDPE RAW PH, SC, SO4, Cl-
3-40mL glass HCL VOC'S

1- 250 mL HDPE NaoH cyanide
1-250mL HDPE H_2SO_4 COD-NO_2/NO_3

957 Stop purging MGMB-2 pull grundfoss pump and Decon.

1005 5.75 gallon purged from MGMB-2

Final Field parameters MGMB-2

Time	Temp	pH	SC	ORP	DO
950	7.05°c	6.88	696	307.4mV	5.64 mg/L

1010 ARRived @ BSB-A1

TD= 52.53'
DTW = 35.70'
Column Depth 16.83'
Case ø = 2"
3 well volume= 8.415
Pump set @ 48'

1020 Begin purging BSB-A1 @ 300 mL/min

1105 ARRive @ BSB-A5

TD: 45.80'
DTW: 43.60'
Case ø = 2"
3 well volumes: 1.1 gallons

1120 purged 5.3 ~~gallons~~ Liters from BSB-AS using dedicated Bailer.

1125 ARRive Back @ BSB-A1 6.75 gallons purged from Well.

1145 Begin Collecting Field parameters

1155 collect BSB-GW-02-031715
1-250mL HDPE NaOH Cyanide
1-250mL HDPE H_2SO_4 COD, NO_2, NO_3
3-40mL glass HCL VOC's
1- 500mL HDPE NaoH/Zn sulfides
1-1L HDPE Raw pH, SC, SO_4, Cl^-

1205 pull 120 volt grundfoss pump from well and Decon. All purge water contained in plastic Jugs and stored to Be disposed at BTC-LAO treatment facility

Final Field parameters BSB - A1

Time	Temp	PH	SC	ORP	DO
1155	11.22°C	6.82	437 uS/cm	218.9	0.58 mg/L

8.45 gallon purged from BSB - A1

1230 ARRive @ BSB - A6R

TD = 59.75'
DTW = 52.35'
column Depth = 7.4'
Case ∅ = 2"
3 well volumes = 3.7 gallons

1240 Begin purging BSB - A6R @ 150mL/min water light orange & Brown color.

1430 Begin collecting field parameters for BSB - A6R. PTS crew noticed water in cell Had sheen on water surface

1440 Collect BSB - GW - 04 - 031715

1 - 250mL NaOH HDPE Cyanide
1 - 250mL HDPE H_2SO_4 COD, NO_2, NO_3
3 - 40mL ~~HDPE~~ glass HCL VOC'S
1 - 500mL HDPE NaOH, Zn Sulfide
1 - 1L HDPE Raw PH, SC, SO_4, Cl-

1440 Also collected BSB - GW - 07 - 031517
Duplicate of BSB - GW - 04 - 031715
3 - 40mL glass VOC'S

1458 pull pump and Decon, all purge water contained in plastic purge container and disposed off site at BTC - LAO Treatment facility

1440 Final field parameters BSB - A6R

Time	PH	Temp	SC	ORP	DO
1440	6.0°C	10.91	3166 uS/cm	67.1	1.14 mg/L

1502 ARRive back @ BSB - A5

1510 Bail water for final field parameters

Final field parameters

Time	Temp	PH	SC	ORP	DO
1510	8.91	5.24	1,264	215 mv	8.20

1510 collect BSB-GW-03-031715

1-250mL H_2SO_4 HDPE COD NO_2, NO_3
1-250mL HDPE NaOH Cyanide
1-~~250~~ 500mL HDPE NaOH, Zn Sulfide
3-40mL Glass HCl VOC's
1-1L HDPE Raw PH, SC, SO_4, Cl-

Water collected visually looked Dark Black In color and High In turbidity

1540 PTS Sample Crew OFF site for the Day
Crew members
DJ Renz
Tom Hickey

1600 Dump purge water @ BTC-LAO treatment facility. Samples placed In LAO Sample fridge to be Stored overnight.

1610 collect BSB-GW-09-031715 DI Blank
1-250mL HDPE HNO_3 Dissolved metals
1-1L HDPE Raw PH, SC, SO_4, Cl-

Collect Blank at BTC-LAO treatment facility.

DJ Renz
3/17/15

3/18/15 BSB old landfill

9:45 Arrived on site @ CLK-1

TD = 19.0'
DTW = 4.90
Case⊘ = 2"
Column Depth = 14.1
3 well Volumes = 7.05

800 meters Calibrated for ORP, PH, DO, SC

Crew members
DJ Renz, Thomas Hickey

10:16 started purging @ 0.75 gpm
well ran orange silt for first 1 minute

10:23 began to collect field parameters

10:40 collect BSB-GW-05-031815
1-250 mL HDPE HNO_3 Dissolved Metal
1-1L-HDPE; Raw; SC, PH, SO_4, CL-

1040 Final field Parameters

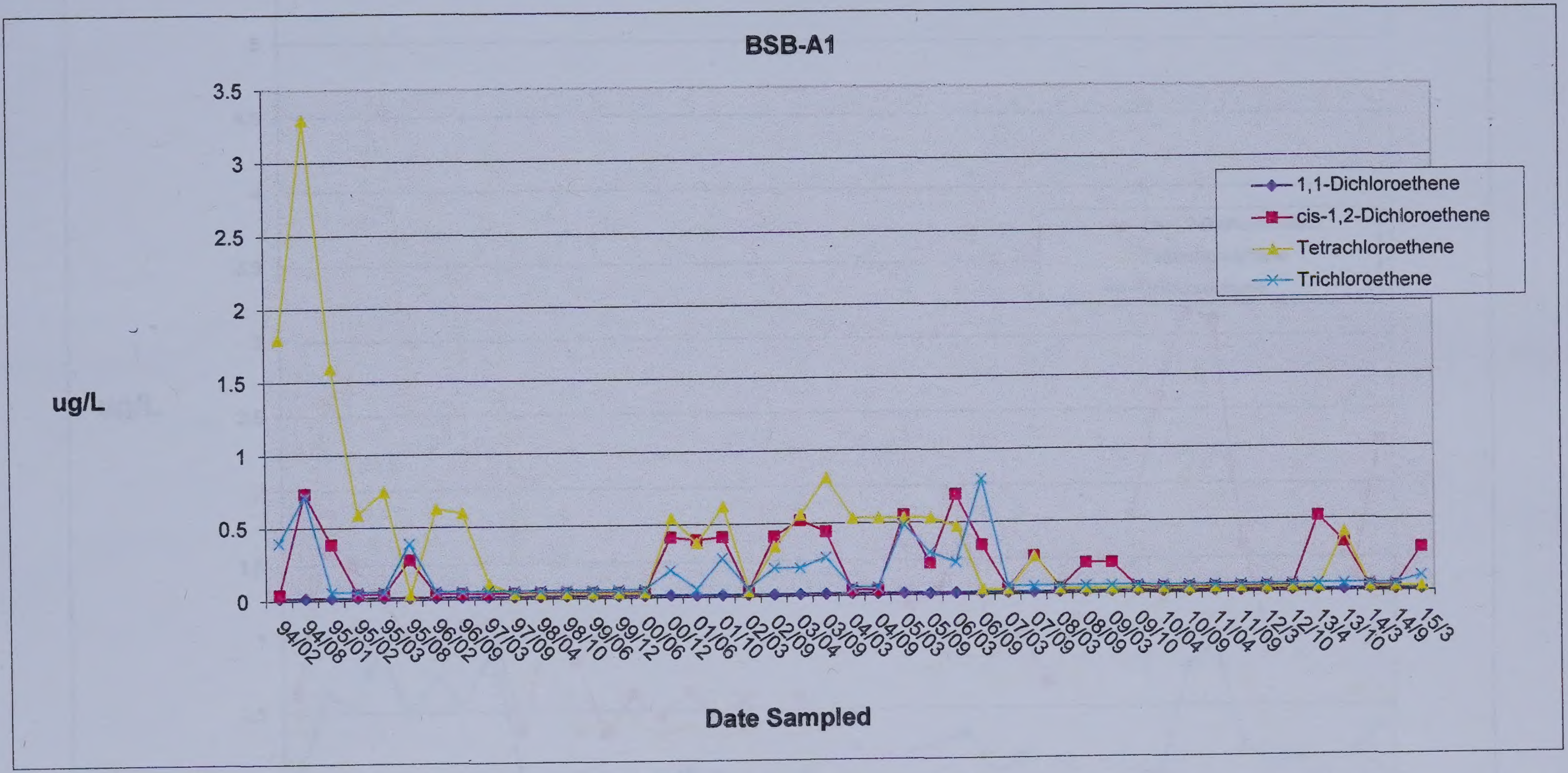
Temp	PH	SC	OPP	DO	time
7.24	6.25	1648	54.3	0.36	1040

1045 pull 12 volt pump and
decon all purge water contained
in purge containers and emptied
a LAO

1105 Arrive at CLK-2

TD = 46.90
DTW - 40.88
Column = 6.02
Case⊘ = 2"
3 well volumes - 3.01

11:10 started purging CLK-2
@ 750 mL / min


BSB-A1
ug/L
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3
2.5
2
1.5
1
0.5
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Tetrachloroethene
Trichloroethene
94/02
94/08
95/01
95/02
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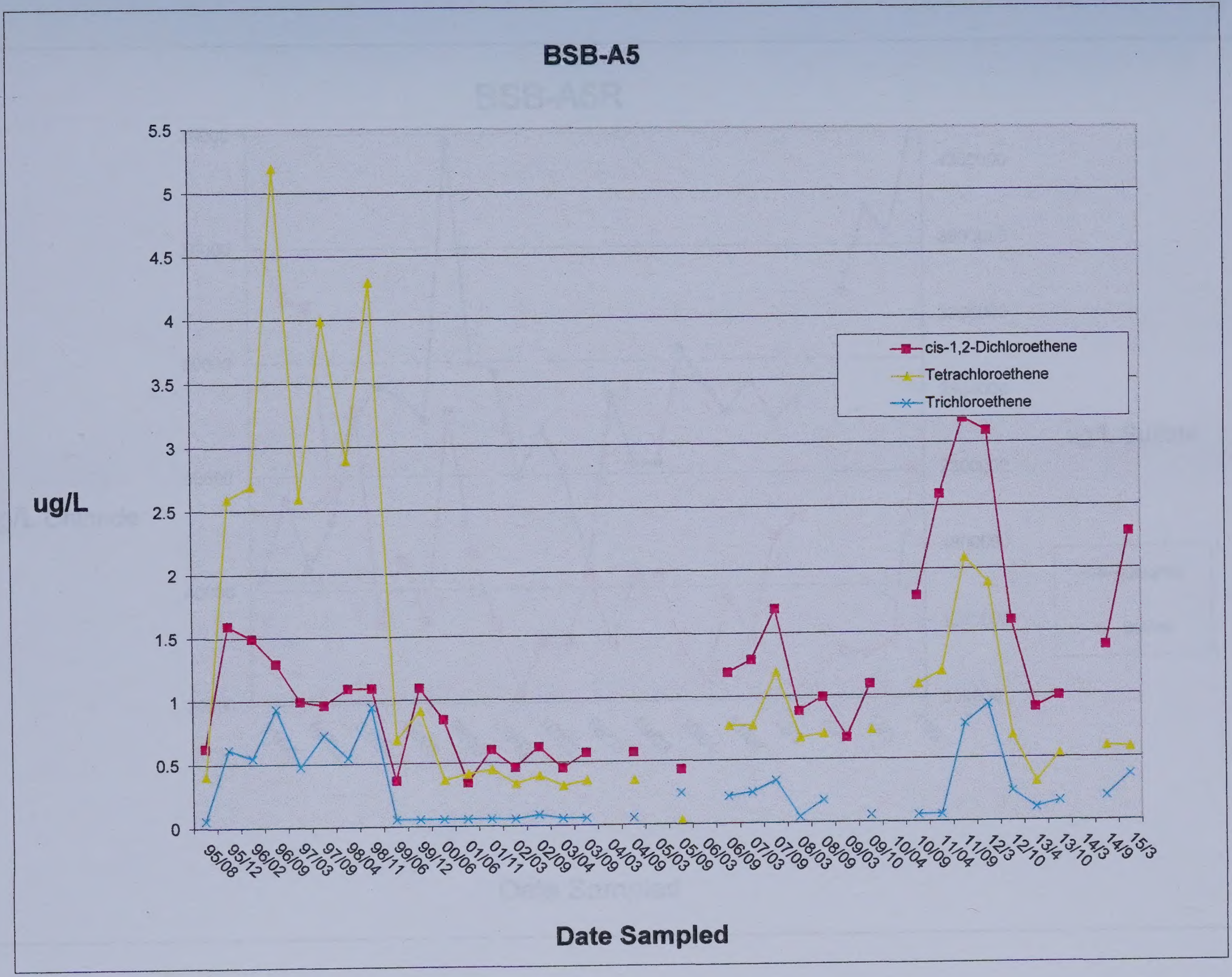
14/3
14/9
15/3
Date Sampled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3.5
3
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Tetrachloroethene
Trichloroethene
95/08
95/12
96/02
96/09
97/03
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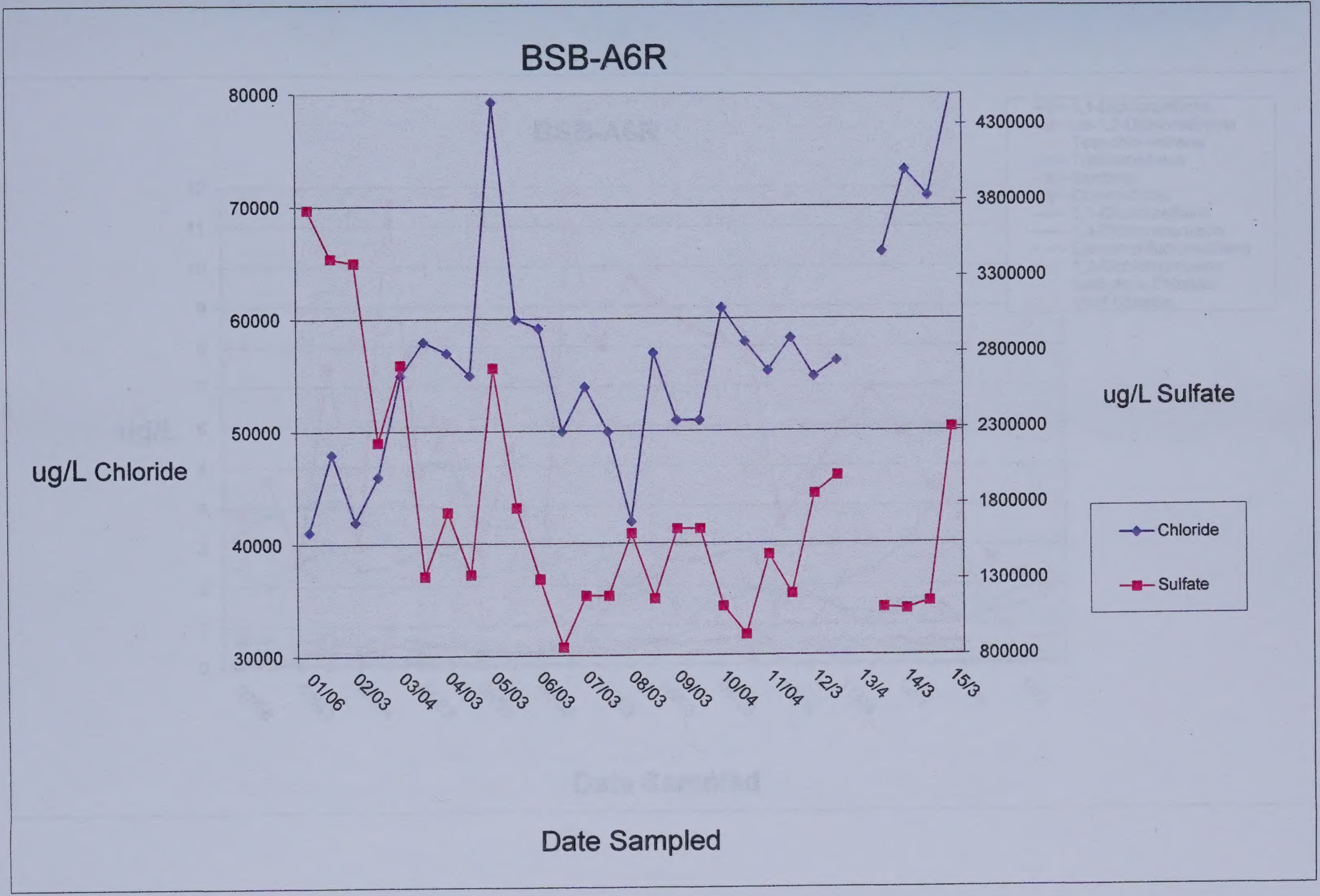
13/10
14/3
14/9
15/3
Date Sampled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40000
30000
ug/L Chloride
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3800000
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1800000
1300000
800000
ug/L Sulfate
01/06
02/03
03/04
04/03
05/03
06/03
07/03
08/03
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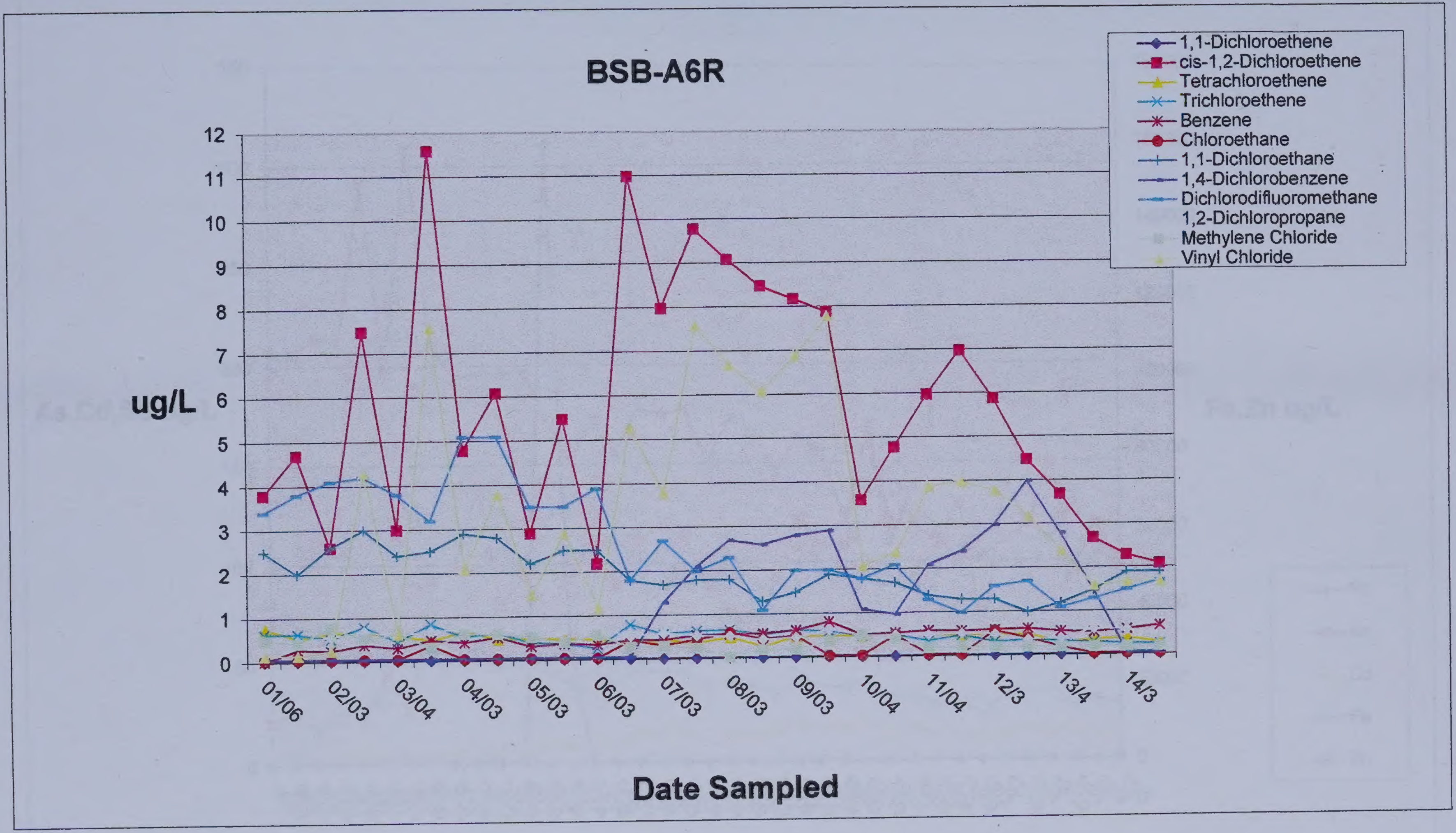
10/04
11/04
12/3
13/4
14/3
15/3
Date Sampled
Chloride
Sulfate

BSB-A6R
ug/L
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11
10
9
8
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6
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4
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02/03
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04/03
05/03
06/03
07/03
08/03
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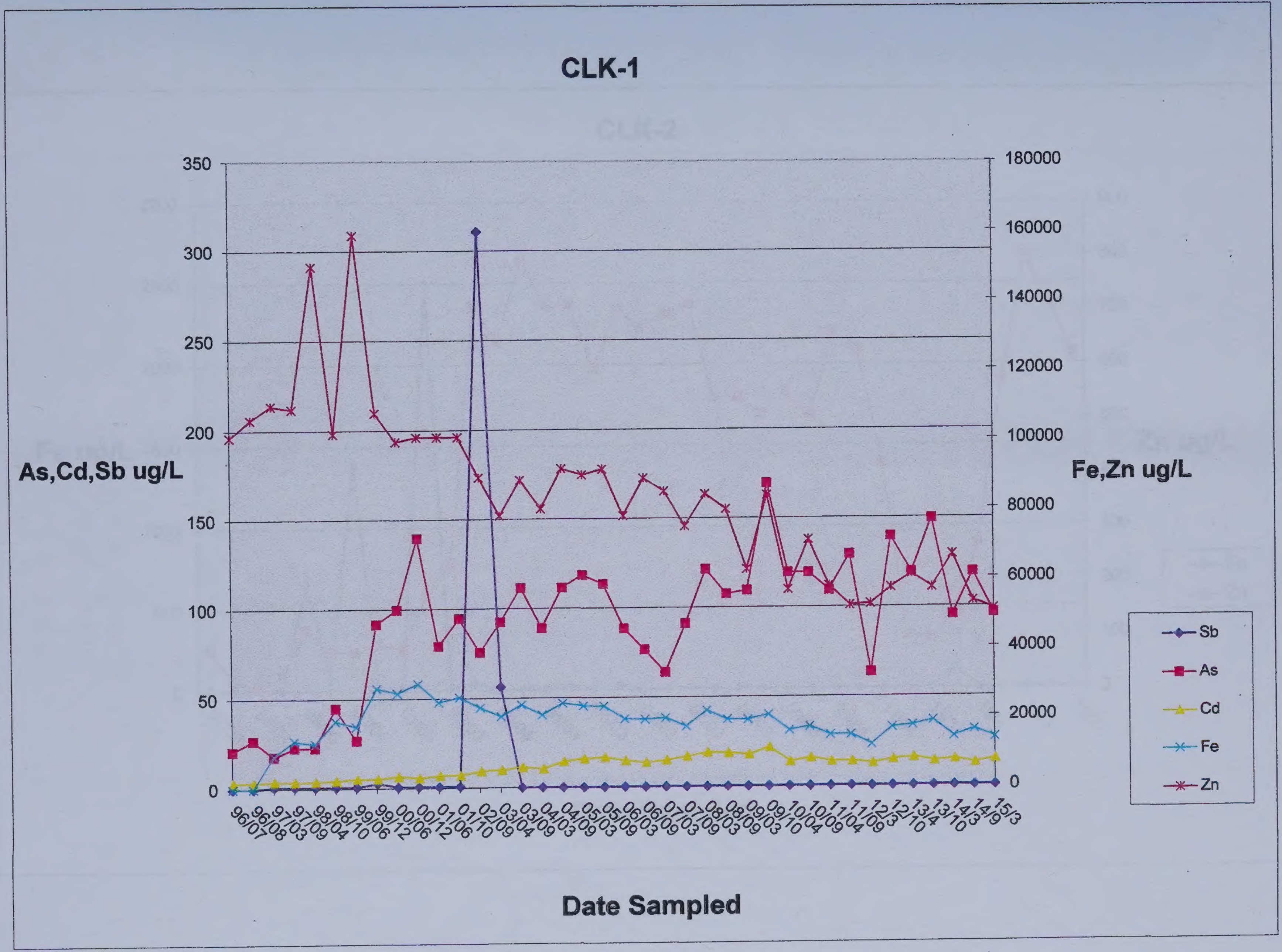
11/04
12/3
13/4
14/3
Date Sampled
1,1-Dichloroethene
cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene
Benzene
Chloroethane
1,1-Dichloroethane
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,2-Dichloropropane
Methylene Chloride
Vinyl Chloride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250
200
150
100
50
0
Fe,Zn ug/L
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120000
100000
80000
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40000
20000
0
96/07
96/08
97/03
97/09
98/04
98/10
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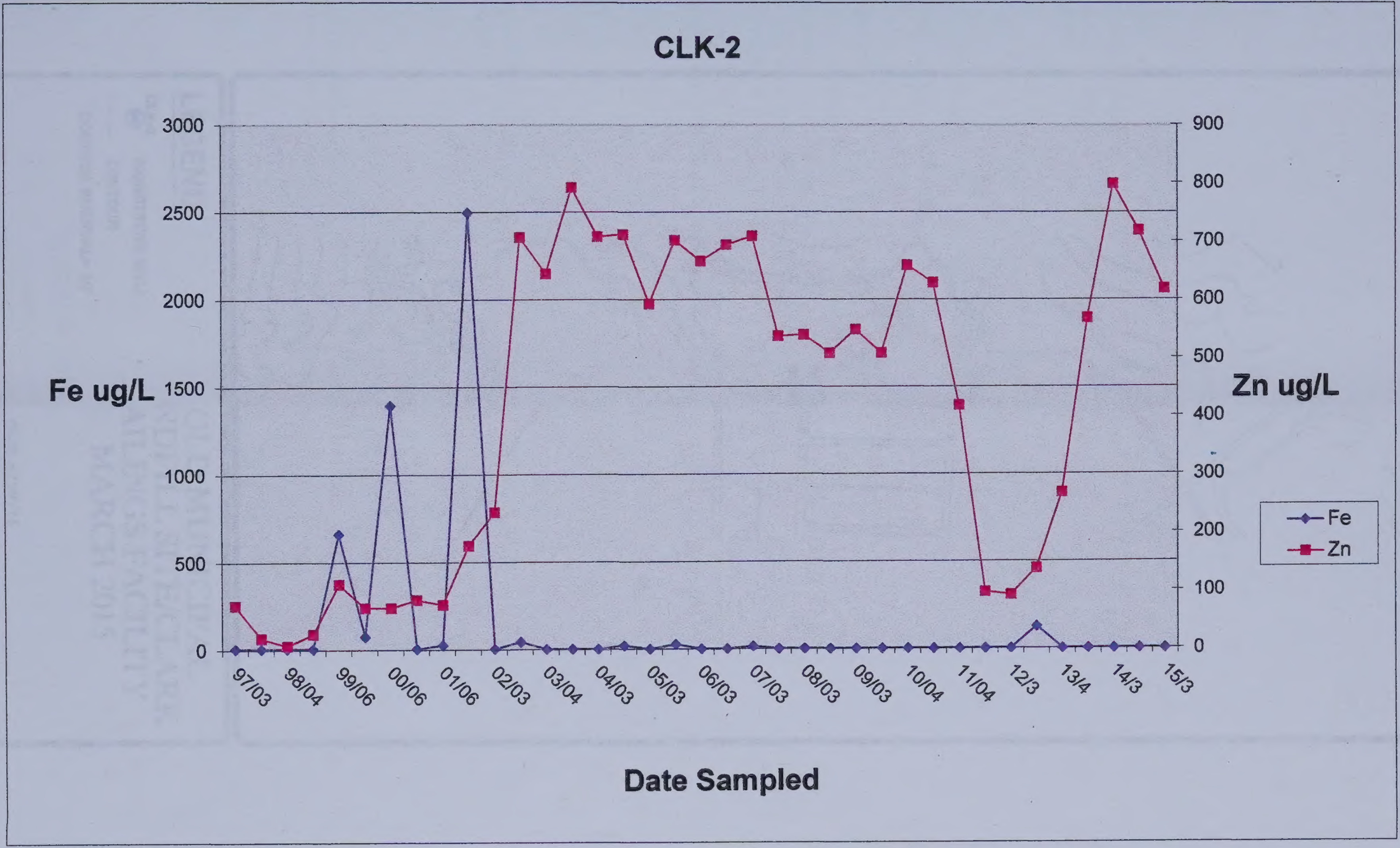
Date Sampled
Sb
As
Cd
Fe
Zn


CLK-2
Fe ug/L
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2500
2000
1500
1000
500
0
Zn ug/L
900
800
700
600
500
400
300
200
100
0
97/03
98/04
99/06
00/06
01/06
02/03
03/04
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05/03
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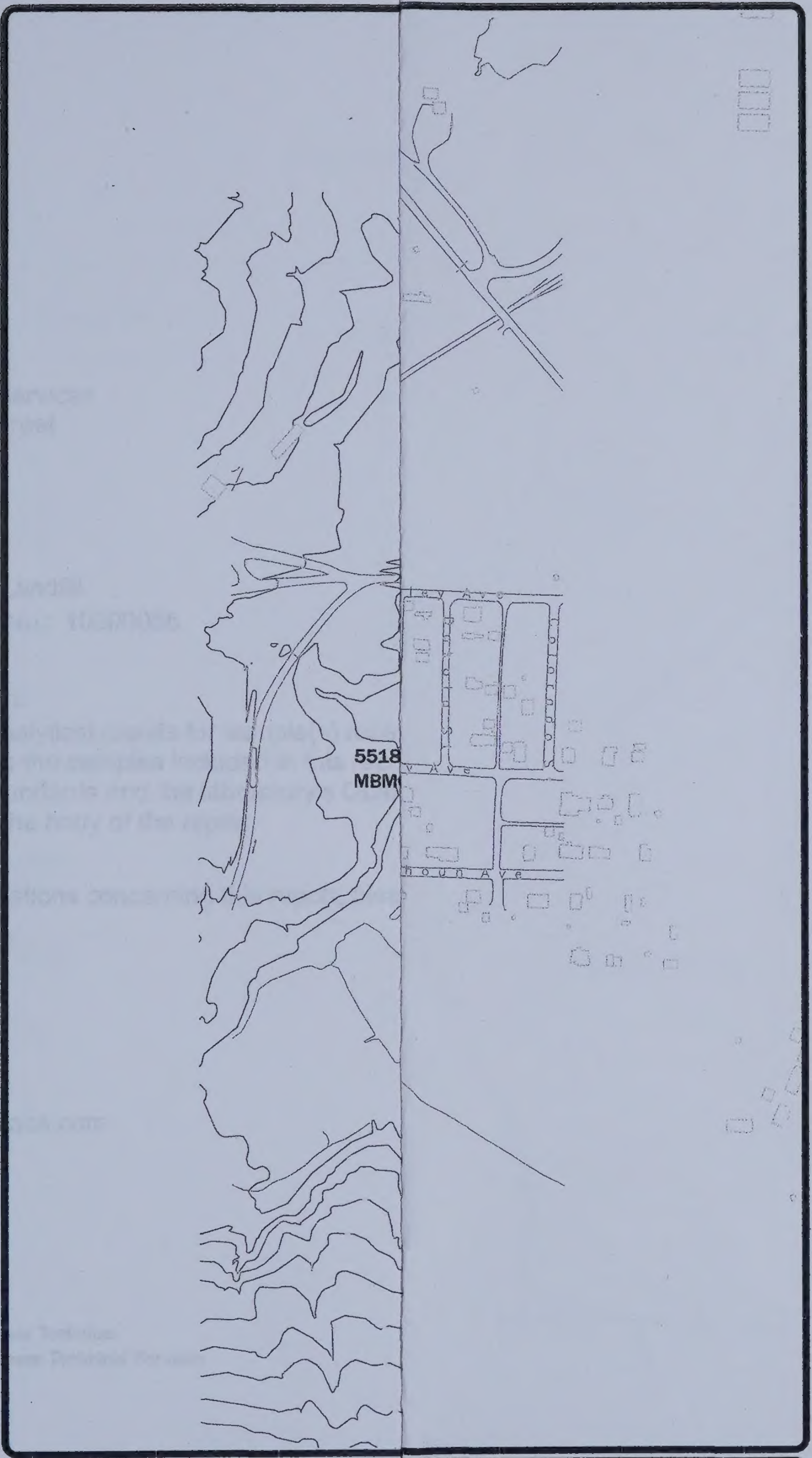
14/3
15/3
Date Sampled
Fe
Zn


5518
MBM
Ave
Ave
Ave

LEGEND

CLK-1 ● MONITORING WELL

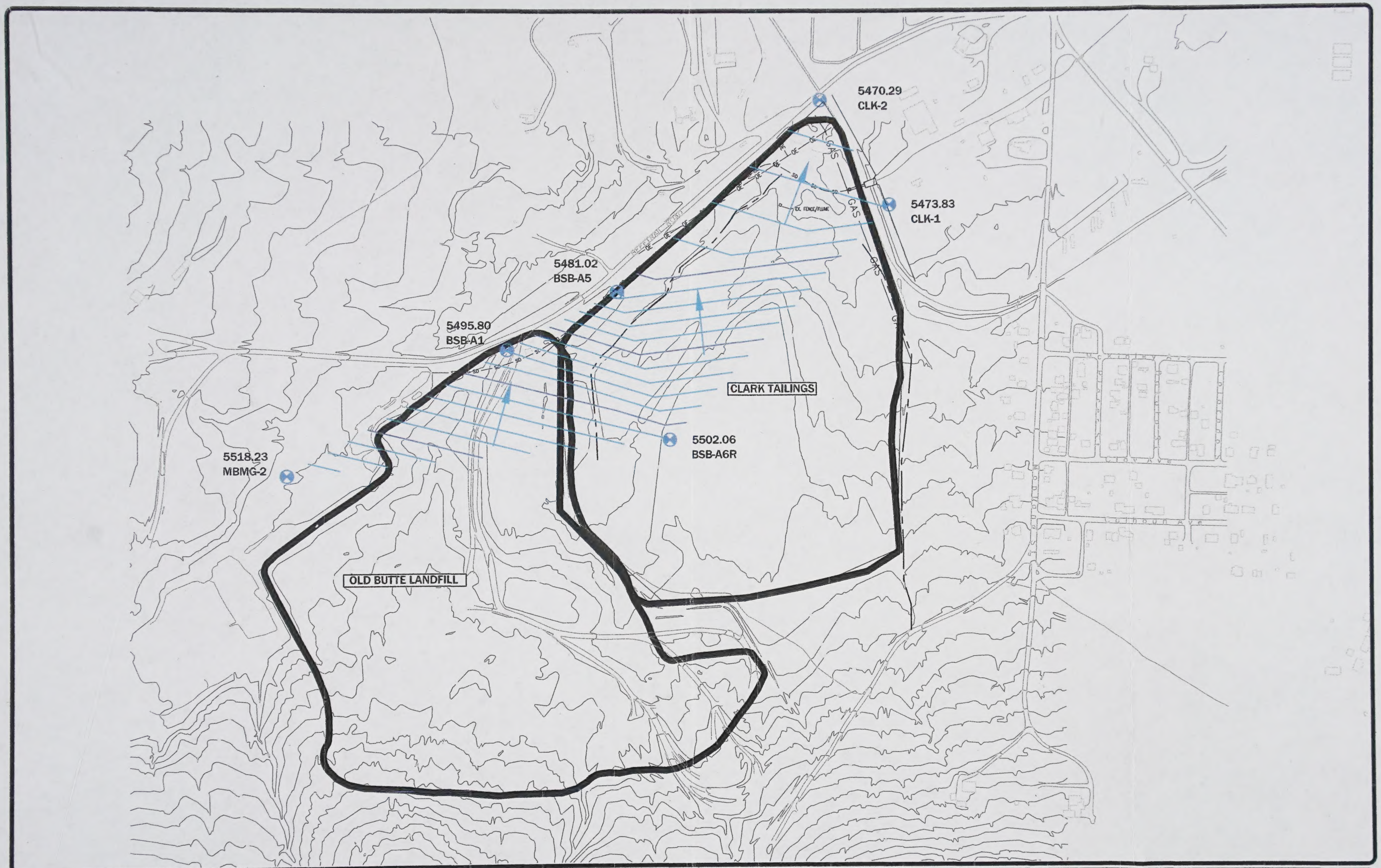
—— CONTOUR

CONTOUR INTERVAL= 10'

OLD MUNICIPAL
NDFILL SITE/CLARK
AILINGS FACILITY
MARCH 2015

DATE: 5/29/15

5/20/2015 11:40:10 AM P:\E


5470.29
CLK-2
5473.83
CLK-1
5481.02
BSB-A5
5495.80
BSB-A1
5518.23
MBMG-2
5502.06
BSB-A6R
CLARK TAILINGS
OLD BUTTE LANDFILL
GAS
EX. FENCE/FLUME

LEGEND

CLK-1 ● MONITORING WELL
—— CONTOUR
CONTOUR INTERVAL= 10'

N

DISPLAYED AS:
COORD SYS/ZONE: NA
DATUM: NA
UNITS: FEET
SOURCE: PIONEER

SCALE IN FEET
0 300 600

FIGURE 1

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

OLD MUNICIPAL LANDFILL SITE/CLARK TAILINGS FACILITY MARCH 2015

DATE: 5/29/15

5/20/2015 11:40:10 AM P:\BUTTE-SILVER BOW\BSB OLD LANDFILL\OLD LANDFILL\2015\OLDLNDFL-FG-PLN-001-15.DWG

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

April 02, 2015

Brad Hollamon
Pioneer Technical Services
1101 S. Montana Street
Butte, MT 59701

RE: Project: Old Landfill
Pace Project No.: 10300055

Dear Brad Hollamon:

Enclosed are the analytical results for sample(s) received by the laboratory on March 19, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Julie Bowser
julie.bowser@pacelabs.com
Project Manager

Enclosures

cc: Julie Flammang, Pioneer Technical
Mitch Mihailovich, Pioneer Technical Services

CERTIFICATIONS

Project: Old Landfill
Pace Project No.: 10300055

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

Green Bay Certification IDs

1241 Bellevue Street, Green Bay, WI 54302
Florida/NELAP Certification #: E87948
Illinois Certification #: 200050
Kentucky Certification #: 82
Louisiana Certification #: 04168
Minnesota Certification #: 055-999-334
North Dakota Certification #: R-150
South Carolina Certification #: 83006001
Texas Certification #: T104704529-14-1
US Dept of Agriculture #: S-76505
Wisconsin Certification #: 405132750

SAMPLE SUMMARY

Project: Old Landfill
Pace Project No.: 10300055

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10300055001	**BSB-GW-01-031715**	Water	03/17/15 09:50	03/19/15 09:30
10300055002	**BSB-GW-02-031715**	Water	03/17/15 11:55	03/19/15 09:30
10300055003	**BSB-GW-03-031715**	Water	03/17/15 15:10	03/19/15 09:30
10300055004	**BSB-GW-04-031715**	Water	03/17/15 14:40	03/19/15 09:30
10300055005	**BSB-GW-07-031715**	Water	03/17/15 14:40	03/19/15 09:30
10300055006	**Trip Blank**	Water	03/17/15 00:00	03/19/15 09:30

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SAMPLE ANALYTE COUNT

Project: Old Landfill
Pace Project No.: 10300055

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10300055001	**BSB-GW-01-031715**	EPA 6020	TT3	14	PASI-M
		EPA 7470	LMW	1	PASI-M
		EPA 8260	AJC	53	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		SM 4500-S F (2000)	DEY	1	PASI-G
		EPA 410.4	KEO	1	PASI-M
		SM 4500-NO3 H	PH1	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10300055002	**BSB-GW-02-031715**	EPA 8260	AJC	53	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		SM 4500-S F (2000)	DEY	1	PASI-G
		EPA 410.4	KEO	1	PASI-M
		SM 4500-NO3 H	PH1	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10300055003	**BSB-GW-03-031715**	EPA 8260	AJC	53	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		SM 4500-S F (2000)	DEY	1	PASI-G
		EPA 410.4	KEO	1	PASI-M
		SM 4500-NO3 H	PH1	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10300055004	**BSB-GW-04-031715**	EPA 8260	AJC	53	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		SM 4500-S F (2000)	DEY	1	PASI-G
		EPA 410.4	KEO	1	PASI-M
		SM 4500-NO3 H	PH1	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M

SAMPLE ANALYTE COUNT

Project: Old Landfill
Pace Project No.: 10300055

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		SM 4500-CN-E	PH1	1	PASI-M
10300055005	**BSB-GW-07-031715**	EPA 8260	AJC	53	PASI-M
10300055006	**Trip Blank**	EPA 8260	AJC	53	PASI-M

PROJECT NARRATIVE

Project:	Old Landfill
Pace Project No.:	10300055

Method: **EPA 6020**
Description: 6020 MET ICPMS, Dissolved
Client: Pioneer Technical
Date: April 02, 2015

General Information:
1 sample was analyzed for EPA 6020. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 3020 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project:	Old Landfill
Pace Project No.:	10300055

Method: **EPA 7470**
Description: 7470 Mercury, Dissolved
Client: Pioneer Technical
Date: April 02, 2015

General Information:
1 sample was analyzed for EPA 7470. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 7470A with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: MERP/13062

B: Analyte was detected in the associated method blank.
- BLANK for HBN 346576 [MERP/130 (Lab ID: 1925312)
  - Mercury, Dissolved

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10300055

Method: **EPA 8260**
Description: 8260 MSV
Client: Pioneer Technical
Date: April 02, 2015

General Information:
6 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: MSV/30848

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 1923594)
  - Bromomethane
  - Iodomethane
- BSB-GW-01-031715 (Lab ID: 10300055001)
  - Bromomethane
  - Iodomethane
- BSB-GW-02-031715 (Lab ID: 10300055002)
  - Bromomethane
  - Iodomethane
- BSB-GW-03-031715 (Lab ID: 10300055003)
  - Bromomethane
  - Iodomethane
- BSB-GW-04-031715 (Lab ID: 10300055004)
  - Bromomethane
  - Iodomethane
- BSB-GW-07-031715 (Lab ID: 10300055005)
  - Bromomethane
  - Iodomethane
- DUP (Lab ID: 1925620)
  - Bromomethane
  - Iodomethane
- LCS (Lab ID: 1923595)
  - Bromomethane
  - Iodomethane
- MS (Lab ID: 1925619)
  - Bromomethane
  - Iodomethane
- Trip Blank (Lab ID: 10300055006)
  - Bromomethane
  - Iodomethane

PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10300055

Method: **EPA 8260**
Description: 8260 MSV
Client: Pioneer Technical
Date: April 02, 2015

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

QC Batch: MSV/30848

L0: Analyte recovery in the laboratory control sample (LCS) was outside QC limits.

- LCS (Lab ID: 1923595)
  - Carbon disulfide

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/30848

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10300079001

M0: Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

- MS (Lab ID: 1925619)
  - Carbon disulfide

M1: Matrix spike recovery exceeded QC limits.. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1925619)
  - Chloroethane
  - Chloromethane
  - Dichlorodifluoromethane
  - Iodomethane
  - Trichlorofluoromethane
  - Vinyl chloride

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10300055

Method: **EPA 120.1**
Description: 120.1 Specific Conductance
Client: Pioneer Technical
Date: April 02, 2015

General Information:
4 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

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PROJECT NARRATIVE

Project:	Old Landfill
Pace Project No.:	10300055

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: Pioneer Technical
Date: April 02, 2015

General Information:
4 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA recommended holding time.
- BSB-GW-01-031715 (Lab ID: 10300055001)
- BSB-GW-02-031715 (Lab ID: 10300055002)
- BSB-GW-03-031715 (Lab ID: 10300055003)
- BSB-GW-04-031715 (Lab ID: 10300055004)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10300055

Method: **SM 4500-S F (2000)**
Description: 4500S2F Sulfide, Iodometric
Client: Pioneer Technical
Date: April 02, 2015

General Information:
4 samples were analyzed for SM 4500-S F (2000). All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

Analyte Comments:

QC Batch: WET/21528

1M: Sample was received with headspace.
- BSB-GW-01-031715 (Lab ID: 10300055001)
  - Sulfide
- BSB-GW-02-031715 (Lab ID: 10300055002)
  - Sulfide
- BSB-GW-03-031715 (Lab ID: 10300055003)
  - Sulfide
- BSB-GW-04-031715 (Lab ID: 10300055004)
  - Sulfide

PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10300055

Method: **EPA 410.4**
Description: 410.4 COD
Client: Pioneer Technical
Date: April 02, 2015

General Information:
4 samples were analyzed for EPA 410.4. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 410.4 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project:	Old Landfill
Pace Project No.:	10300055

Method:	**SM 4500-NO3 H**
Description:	SM4500NO3-H, NO2 + NO3 pres.
Client:	Pioneer Technical
Date:	April 02, 2015

General Information:
4 samples were analyzed for SM 4500-NO3 H. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22278

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10300055001,10300833005

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1928005)
  - Nitrogen, NO2 plus NO3
- MS (Lab ID: 1928007)
  - Nitrogen, NO2 plus NO3
- MSD (Lab ID: 1928006)
  - Nitrogen, NO2 plus NO3
- MSD (Lab ID: 1928008)
  - Nitrogen, NO2 plus NO3

Additional Comments:

PROJECT NARRATIVE

Project:	Old Landfill
Pace Project No.:	10300055

Method: **ASTM D516**
Description: ASTM D516 Sulfate Water
Client: Pioneer Technical
Date: April 02, 2015

General Information:
4 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22261

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10300055001,10300056002

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 1926706)
  - Sulfate
- MSD (Lab ID: 1926707)
  - Sulfate

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10300055

Method: **SM 4500-Cl E**
Description: SM4500Cl-E Chloride
Client: Pioneer Technical
Date: April 02, 2015

General Information:
4 samples were analyzed for SM 4500-Cl E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22269

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10300055001,10300056003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MSD (Lab ID: 1926735)
  - Chloride

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill
Pace Project No.: 10300055

Method: **SM 4500-CN-E**
Description: SM4500CN-E Cyanide
Client: Pioneer Technical
Date: April 02, 2015

General Information:
4 samples were analyzed for SM 4500-CN-E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with SM 4500-CN-E with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22235

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10300026001,10300055004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1924728)
  - Cyanide
- MSD (Lab ID: 1924729)
  - Cyanide

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10300055

Sample: BSB-GW-01-031715 Lab ID: **10300055001** Collected: 03/17/15 09:50 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
6020 MET ICPMS, Dissolved	Analytical Method: EPA 6020 Preparation Method: EPA 3020								
Antimony, Dissolved	ND	mg/L	0.00050	0.00025	1	03/25/15 15:57	03/26/15 09:19	7440-36-0	
Arsenic, Dissolved	**0.0013**	mg/L	0.00050	0.00025	1	03/25/15 15:57	03/26/15 09:19	7440-38-2	
Barium, Dissolved	**0.13**	mg/L	0.010	0.00014	1	03/25/15 15:57	03/26/15 09:19	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000066	1	03/25/15 15:57	03/26/15 09:19	7440-41-7	
Cadmium, Dissolved	ND	mg/L	0.000080	0.000033	1	03/25/15 15:57	03/26/15 09:19	7440-43-9	
Chromium, Dissolved	**0.00026J**	mg/L	0.00050	0.00022	1	03/25/15 15:57	03/26/15 09:19	7440-47-3	
Cobalt, Dissolved	ND	mg/L	0.00050	0.00025	1	03/25/15 15:57	03/26/15 09:19	7440-48-4	
Copper, Dissolved	**0.0019**	mg/L	0.0010	0.00022	1	03/25/15 15:57	03/26/15 09:19	7440-50-8	
Iron, Dissolved	ND	mg/L	0.050	0.0080	1	03/25/15 15:57	03/26/15 09:19	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	03/25/15 15:57	03/26/15 09:19	7439-92-1	
Nickel, Dissolved	**0.00034J**	mg/L	0.00050	0.00023	1	03/25/15 15:57	03/26/15 09:19	7440-02-0	
Selenium, Dissolved	**0.00063**	mg/L	0.00050	0.00025	1	03/25/15 15:57	03/26/15 09:19	7782-49-2	
Vanadium, Dissolved	**0.0072**	mg/L	0.0010	0.00021	1	03/25/15 15:57	03/26/15 09:19	7440-62-2	
Zinc, Dissolved	ND	mg/L	0.0050	0.0025	1	03/25/15 15:57	03/26/15 09:19	7440-66-6	
7470 Mercury, Dissolved	Analytical Method: EPA 7470 Preparation Method: EPA 7470A								
Mercury, Dissolved	**0.000042J**	mg/L	0.00020	0.000026	1	03/25/15 19:10	03/26/15 17:19	7439-97-6	B
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	10.0	1		03/24/15 05:41	67-64-1	
Acrylonitrile	ND	ug/L	10.0	5.0	1		03/24/15 05:41	107-13-1	
Benzene	ND	ug/L	1.0	0.15	1		03/24/15 05:41	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.12	1		03/24/15 05:41	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.20	1		03/24/15 05:41	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		03/24/15 05:41	75-25-2	
Bromomethane	ND	ug/L	4.0	2.0	1		03/24/15 05:41	74-83-9	CL
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		03/24/15 05:41	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.20	1		03/24/15 05:41	75-15-0	L3
Carbon tetrachloride	ND	ug/L	1.0	0.16	1		03/24/15 05:41	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.066	1		03/24/15 05:41	108-90-7	
Chloroethane	ND	ug/L	1.0	0.27	1		03/24/15 05:41	75-00-3	
Chloroform	ND	ug/L	1.0	0.16	1		03/24/15 05:41	67-66-3	
Chloromethane	ND	ug/L	4.0	0.34	1		03/24/15 05:41	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2.0	1		03/24/15 05:41	96-12-8	
Dibromochloromethane	ND	ug/L	4.0	0.50	1		03/24/15 05:41	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.15	1		03/24/15 05:41	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.18	1		03/24/15 05:41	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.16	1		03/24/15 05:41	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.50	1		03/24/15 05:41	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	5.0	1		03/24/15 05:41	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.50	1		03/24/15 05:41	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.16	1		03/24/15 05:41	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.13	1		03/24/15 05:41	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.20	1		03/24/15 05:41	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.13	1		03/24/15 05:41	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.23	1		03/24/15 05:41	156-60-5	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10300055

Sample: BSB-GW-01-031715 **Lab ID: 10300055001** Collected: 03/17/15 09:50 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
1,2-Dichloropropane	ND	ug/L	4.0	0.14	1		03/24/15 05:41	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.13	1		03/24/15 05:41	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.18	1		03/24/15 05:41	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/24/15 05:41	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.5	1		03/24/15 05:41	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		03/24/15 05:41	74-88-4	CL
Methylene Chloride	ND	ug/L	4.0	2.0	1		03/24/15 05:41	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.5	1		03/24/15 05:41	108-10-1	
Styrene	ND	ug/L	1.0	0.069	1		03/24/15 05:41	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		03/24/15 05:41	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		03/24/15 05:41	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.16	1		03/24/15 05:41	127-18-4	
Toluene	**0.49J**	ug/L	1.0	0.11	1		03/24/15 05:41	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.26	1		03/24/15 05:41	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.14	1		03/24/15 05:41	79-00-5	
Trichloroethene	ND	ug/L	0.40	0.091	1		03/24/15 05:41	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.22	1		03/24/15 05:41	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1.2	1		03/24/15 05:41	96-18-4	
Vinyl acetate	ND	ug/L	10.0	0.21	1		03/24/15 05:41	108-05-4	
Vinyl chloride	ND	ug/L	0.40	0.10	1		03/24/15 05:41	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/24/15 05:41	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.31	1		03/24/15 05:41	179601-23-1	
o-Xylene	**0.25J**	ug/L	1.0	0.094	1		03/24/15 05:41	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	91	%.	75-125		1		03/24/15 05:41	17060-07-0	
Toluene-d8 (S)	93	%.	75-125		1		03/24/15 05:41	2037-26-5	
4-Bromofluorobenzene (S)	104	%.	75-125		1		03/24/15 05:41	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**804**	umhos/cm	1.0	1.0	1		03/24/15 08:29		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.1**	Std. Units	0.10	0.10	1		03/23/15 14:34		H6
4500S2F Sulfide, Iodometric	Analytical Method: SM 4500-S F (2000)								
Sulfide	ND	mg/L	5.0	2.0	1		03/24/15 10:27		1M
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4								
Chemical Oxygen Demand	**16.2J**	mg/L	50.0	11.2	1	03/26/15 11:27	03/26/15 15:45		
SM4500NO3-H, NO2 + NO3 pres.	Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	**2.9**	mg/L	0.10	0.050	1		03/31/15 12:07		M1
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**139**	mg/L	12.5	6.2	5		03/27/15 09:22	14808-79-8	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10300055

Sample: BSB-GW-01-031715 **Lab ID: 10300055001** Collected: 03/17/15 09:50 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**47.8**	mg/L	2.0	1.0	2		03/27/15 10:19	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E								
Cyanide	ND	ug/L	10.0	5.0	1	03/25/15 12:10	03/25/15 14:06	57-12-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10300055

Sample: BSB-GW-02-031715 Lab ID: **10300055002** Collected: 03/17/15 11:55 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	10.0	1		03/24/15 06:05	67-64-1	
Acrylonitrile	ND	ug/L	10.0	5.0	1		03/24/15 06:05	107-13-1	
Benzene	ND	ug/L	1.0	0.15	1		03/24/15 06:05	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.12	1		03/24/15 06:05	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.20	1		03/24/15 06:05	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		03/24/15 06:05	75-25-2	
Bromomethane	ND	ug/L	4.0	2.0	1		03/24/15 06:05	74-83-9	CL
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		03/24/15 06:05	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.20	1		03/24/15 06:05	75-15-0	L3
Carbon tetrachloride	ND	ug/L	1.0	0.16	1		03/24/15 06:05	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.066	1		03/24/15 06:05	108-90-7	
Chloroethane	ND	ug/L	1.0	0.27	1		03/24/15 06:05	75-00-3	
Chloroform	ND	ug/L	1.0	0.16	1		03/24/15 06:05	67-66-3	
Chloromethane	ND	ug/L	4.0	0.34	1		03/24/15 06:05	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2.0	1		03/24/15 06:05	96-12-8	
Dibromochloromethane	ND	ug/L	4.0	0.50	1		03/24/15 06:05	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.15	1		03/24/15 06:05	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.18	1		03/24/15 06:05	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.16	1		03/24/15 06:05	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.50	1		03/24/15 06:05	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	5.0	1		03/24/15 06:05	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.50	1		03/24/15 06:05	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.16	1		03/24/15 06:05	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.13	1		03/24/15 06:05	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.20	1		03/24/15 06:05	75-35-4	
cis-1,2-Dichloroethene	**0.31J**	ug/L	1.0	0.13	1		03/24/15 06:05	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.23	1		03/24/15 06:05	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.14	1		03/24/15 06:05	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.13	1		03/24/15 06:05	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.18	1		03/24/15 06:05	10061-02-6	
Ethylbenzene	**0.38J**	ug/L	1.0	0.16	1		03/24/15 06:05	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.5	1		03/24/15 06:05	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		03/24/15 06:05	74-88-4	CL
Methylene Chloride	ND	ug/L	4.0	2.0	1		03/24/15 06:05	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.5	1		03/24/15 06:05	108-10-1	
Styrene	ND	ug/L	1.0	0.069	1		03/24/15 06:05	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		03/24/15 06:05	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		03/24/15 06:05	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.16	1		03/24/15 06:05	127-18-4	
Toluene	**0.34J**	ug/L	1.0	0.11	1		03/24/15 06:05	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.26	1		03/24/15 06:05	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.14	1		03/24/15 06:05	79-00-5	
Trichloroethene	**0.11J**	ug/L	0.40	0.091	1		03/24/15 06:05	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.22	1		03/24/15 06:05	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1.2	1		03/24/15 06:05	96-18-4	
Vinyl acetate	ND	ug/L	10.0	0.21	1		03/24/15 06:05	108-05-4	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10300055

Sample: BSB-GW-02-031715 **Lab ID: 10300055002** Collected: 03/17/15 11:55 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl chloride	ND	ug/L	0.40	0.10	1		03/24/15 06:05	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/24/15 06:05	1330-20-7	
m&p-Xylene	**1.2J**	ug/L	2.0	0.31	1		03/24/15 06:05	179601-23-1	
o-Xylene	**0.91J**	ug/L	1.0	0.094	1		03/24/15 06:05	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	94	%.	75-125		1		03/24/15 06:05	17060-07-0	
Toluene-d8 (S)	92	%.	75-125		1		03/24/15 06:05	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		03/24/15 06:05	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**511**	umhos/cm	1.0	1.0	1		03/24/15 08:30		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.2**	Std. Units	0.10	0.10	1		03/23/15 14:36		H6
4500S2F Sulfide, Iodometric	Analytical Method: SM 4500-S F (2000)								
Sulfide	ND	mg/L	5.0	2.0	1		03/24/15 10:37		1M
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4								
Chemical Oxygen Demand	ND	mg/L	50.0	11.2	1	03/26/15 11:27	03/26/15 15:45		
SM4500NO3-H, NO2 + NO3 pres.	Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	**0.32**	mg/L	0.10	0.050	1		03/31/15 12:08		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**79.3**	mg/L	12.5	6.2	5		03/27/15 09:22	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**19.5**	mg/L	1.0	0.50	1		03/27/15 10:49	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E								
Cyanide	**10.5**	ug/L	10.0	5.0	1	03/25/15 12:10	03/25/15 14:06	57-12-5	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10300055

Sample: BSB-GW-03-031715 **Lab ID: 10300055003** Collected: 03/17/15 15:10 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	10.0	1		03/24/15 06:28	67-64-1	
Acrylonitrile	ND	ug/L	10.0	5.0	1		03/24/15 06:28	107-13-1	
Benzene	ND	ug/L	1.0	0.15	1		03/24/15 06:28	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.12	1		03/24/15 06:28	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.20	1		03/24/15 06:28	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		03/24/15 06:28	75-25-2	
Bromomethane	ND	ug/L	4.0	2.0	1		03/24/15 06:28	74-83-9	CL
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		03/24/15 06:28	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.20	1		03/24/15 06:28	75-15-0	L3
Carbon tetrachloride	ND	ug/L	1.0	0.16	1		03/24/15 06:28	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.066	1		03/24/15 06:28	108-90-7	
Chloroethane	ND	ug/L	1.0	0.27	1		03/24/15 06:28	75-00-3	
Chloroform	ND	ug/L	1.0	0.16	1		03/24/15 06:28	67-66-3	
Chloromethane	ND	ug/L	4.0	0.34	1		03/24/15 06:28	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2.0	1		03/24/15 06:28	96-12-8	
Dibromochloromethane	ND	ug/L	4.0	0.50	1		03/24/15 06:28	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.15	1		03/24/15 06:28	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.18	1		03/24/15 06:28	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.16	1		03/24/15 06:28	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.50	1		03/24/15 06:28	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	5.0	1		03/24/15 06:28	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.50	1		03/24/15 06:28	75-71-8	
1,1-Dichloroethane	**0.18J**	ug/L	1.0	0.16	1		03/24/15 06:28	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.13	1		03/24/15 06:28	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.20	1		03/24/15 06:28	75-35-4	
cis-1,2-Dichloroethene	**2.3**	ug/L	1.0	0.13	1		03/24/15 06:28	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.23	1		03/24/15 06:28	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.14	1		03/24/15 06:28	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.13	1		03/24/15 06:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.18	1		03/24/15 06:28	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/24/15 06:28	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.5	1		03/24/15 06:28	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		03/24/15 06:28	74-88-4	CL
Methylene Chloride	ND	ug/L	4.0	2.0	1		03/24/15 06:28	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.5	1		03/24/15 06:28	108-10-1	
Styrene	ND	ug/L	1.0	0.069	1		03/24/15 06:28	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		03/24/15 06:28	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		03/24/15 06:28	79-34-5	
Tetrachloroethene	**0.59J**	ug/L	1.0	0.16	1		03/24/15 06:28	127-18-4	
Toluene	**0.46J**	ug/L	1.0	0.11	1		03/24/15 06:28	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.26	1		03/24/15 06:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.14	1		03/24/15 06:28	79-00-5	
Trichloroethene	**0.37J**	ug/L	0.40	0.091	1		03/24/15 06:28	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.22	1		03/24/15 06:28	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1.2	1		03/24/15 06:28	96-18-4	
Vinyl acetate	ND	ug/L	10.0	0.21	1		03/24/15 06:28	108-05-4	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10300055

Sample: BSB-GW-03-031715 **Lab ID: 10300055003** Collected: 03/17/15 15:10 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl chloride	ND	ug/L	0.40	0.10	1		03/24/15 06:28	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/24/15 06:28	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.31	1		03/24/15 06:28	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.094	1		03/24/15 06:28	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	93	%.	75-125		1		03/24/15 06:28	17060-07-0	
Toluene-d8 (S)	93	%.	75-125		1		03/24/15 06:28	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		03/24/15 06:28	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1390**	umhos/cm	1.0	1.0	1		03/24/15 08:31		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**5.1**	Std. Units	0.10	0.10	1		03/23/15 14:39		H6
4500S2F Sulfide, Iodometric	Analytical Method: SM 4500-S F (2000)								
Sulfide	**11.2**	mg/L	5.0	2.0	1		03/24/15 10:42		1M
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4								
Chemical Oxygen Demand	**47.7J**	mg/L	50.0	11.2	1	03/26/15 11:27	03/26/15 15:46		
SM4500NO3-H, NO2 + NO3 pres.	Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	**1.6**	mg/L	0.10	0.050	1		03/31/15 12:11		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**704**	mg/L	62.5	31.2	25		03/27/15 09:25	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**32.5**	mg/L	2.0	1.0	2		03/27/15 10:19	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E								
Cyanide	**9.6J**	ug/L	10.0	5.0	1	03/25/15 12:10	03/25/15 14:09	57-12-5	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10300055

Sample: BSB-GW-04-031715 **Lab ID: 10300055004** Collected: 03/17/15 14:40 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	10.0	1		03/24/15 06:52	67-64-1	
Acrylonitrile	ND	ug/L	10.0	5.0	1		03/24/15 06:52	107-13-1	
Benzene	**0.62J**	ug/L	1.0	0.15	1		03/24/15 06:52	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.12	1		03/24/15 06:52	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.20	1		03/24/15 06:52	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		03/24/15 06:52	75-25-2	
Bromomethane	ND	ug/L	4.0	2.0	1		03/24/15 06:52	74-83-9	CL
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		03/24/15 06:52	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.20	1		03/24/15 06:52	75-15-0	L3
Carbon tetrachloride	ND	ug/L	1.0	0.16	1		03/24/15 06:52	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.066	1		03/24/15 06:52	108-90-7	
Chloroethane	ND	ug/L	1.0	0.27	1		03/24/15 06:52	75-00-3	
Chloroform	ND	ug/L	1.0	0.16	1		03/24/15 06:52	67-66-3	
Chloromethane	ND	ug/L	4.0	0.34	1		03/24/15 06:52	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2.0	1		03/24/15 06:52	96-12-8	
Dibromochloromethane	ND	ug/L	4.0	0.50	1		03/24/15 06:52	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.15	1		03/24/15 06:52	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.18	1		03/24/15 06:52	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.16	1		03/24/15 06:52	95-50-1	
1,4-Dichlorobenzene	**1.3**	ug/L	1.0	0.50	1		03/24/15 06:52	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	5.0	1		03/24/15 06:52	110-57-6	
Dichlorodifluoromethane	**1.6**	ug/L	1.0	0.50	1		03/24/15 06:52	75-71-8	
1,1-Dichloroethane	**1.3**	ug/L	1.0	0.16	1		03/24/15 06:52	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.13	1		03/24/15 06:52	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.20	1		03/24/15 06:52	75-35-4	
cis-1,2-Dichloroethene	**2.7**	ug/L	1.0	0.13	1		03/24/15 06:52	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.23	1		03/24/15 06:52	156-60-5	
1,2-Dichloropropane	**0.54J**	ug/L	4.0	0.14	1		03/24/15 06:52	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.13	1		03/24/15 06:52	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.18	1		03/24/15 06:52	10061-02-6	
Ethylbenzene	**0.63J**	ug/L	1.0	0.16	1		03/24/15 06:52	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.5	1		03/24/15 06:52	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		03/24/15 06:52	74-88-4	CL
Methylene Chloride	ND	ug/L	4.0	2.0	1		03/24/15 06:52	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.5	1		03/24/15 06:52	108-10-1	
Styrene	**0.13J**	ug/L	1.0	0.069	1		03/24/15 06:52	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		03/24/15 06:52	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		03/24/15 06:52	79-34-5	
Tetrachloroethene	**0.24J**	ug/L	1.0	0.16	1		03/24/15 06:52	127-18-4	
Toluene	**0.35J**	ug/L	1.0	0.11	1		03/24/15 06:52	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.26	1		03/24/15 06:52	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.14	1		03/24/15 06:52	79-00-5	
Trichloroethene	**0.23J**	ug/L	0.40	0.091	1		03/24/15 06:52	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.22	1		03/24/15 06:52	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1.2	1		03/24/15 06:52	96-18-4	
Vinyl acetate	ND	ug/L	10.0	0.21	1		03/24/15 06:52	108-05-4	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10300055

Sample: BSB-GW-04-031715 **Lab ID: 10300055004** Collected: 03/17/15 14:40 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl chloride	**1.4**	ug/L	0.40	0.10	1		03/24/15 06:52	75-01-4	
Xylene (Total)	**1.7J**	ug/L	3.0	0.40	1		03/24/15 06:52	1330-20-7	
m&p-Xylene	**2.0J**	ug/L	2.0	0.31	1		03/24/15 06:52	179601-23-1	
o-Xylene	**1.7**	ug/L	1.0	0.094	1		03/24/15 06:52	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	97	%.	75-125		1		03/24/15 06:52	17060-07-0	
Toluene-d8 (S)	93	%.	75-125		1		03/24/15 06:52	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		03/24/15 06:52	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**3460**	umhos/cm	1.0	1.0	1		03/26/15 10:40		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**5.4**	Std. Units	0.10	0.10	1		03/23/15 14:40		H6
4500S2F Sulfide, Iodometric	Analytical Method: SM 4500-S F (2000)								
Sulfide	**67.2**	mg/L	20.0	8.1	4		03/24/15 11:07		1M
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4								
Chemical Oxygen Demand	**612**	mg/L	50.0	11.2	1	03/26/15 11:27	03/26/15 15:46		
SM4500NO3-H, NO2 + NO3 pres.	Analytical Method: SM 4500-NO3 H								
Nitrogen, NO2 plus NO3	**0.44**	mg/L	0.10	0.050	1		03/31/15 12:12		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**2310**	mg/L	250	125	100		03/27/15 09:37	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**80.2**	mg/L	5.0	2.5	5		03/27/15 10:46	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E								
Cyanide	**14.9**	ug/L	10.0	5.0	1	03/25/15 12:10	03/25/15 14:09	57-12-5	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10300055

Sample: BSB-GW-07-031715 **Lab ID: 10300055005** Collected: 03/17/15 14:40 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	10.0	1		03/24/15 07:16	67-64-1	
Acrylonitrile	ND	ug/L	10.0	5.0	1		03/24/15 07:16	107-13-1	
Benzene	**0.62J**	ug/L	1.0	0.15	1		03/24/15 07:16	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.12	1		03/24/15 07:16	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.20	1		03/24/15 07:16	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		03/24/15 07:16	75-25-2	
Bromomethane	ND	ug/L	4.0	2.0	1		03/24/15 07:16	74-83-9	CL
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		03/24/15 07:16	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.20	1		03/24/15 07:16	75-15-0	L3
Carbon tetrachloride	ND	ug/L	1.0	0.16	1		03/24/15 07:16	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.066	1		03/24/15 07:16	108-90-7	
Chloroethane	ND	ug/L	1.0	0.27	1		03/24/15 07:16	75-00-3	
Chloroform	ND	ug/L	1.0	0.16	1		03/24/15 07:16	67-66-3	
Chloromethane	ND	ug/L	4.0	0.34	1		03/24/15 07:16	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2.0	1		03/24/15 07:16	96-12-8	
Dibromochloromethane	ND	ug/L	4.0	0.50	1		03/24/15 07:16	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.15	1		03/24/15 07:16	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.18	1		03/24/15 07:16	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.16	1		03/24/15 07:16	95-50-1	
1,4-Dichlorobenzene	**1.4**	ug/L	1.0	0.50	1		03/24/15 07:16	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	5.0	1		03/24/15 07:16	110-57-6	
Dichlorodifluoromethane	**1.7**	ug/L	1.0	0.50	1		03/24/15 07:16	75-71-8	
1,1-Dichloroethane	**1.3**	ug/L	1.0	0.16	1		03/24/15 07:16	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.13	1		03/24/15 07:16	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.20	1		03/24/15 07:16	75-35-4	
cis-1,2-Dichloroethene	**2.8**	ug/L	1.0	0.13	1		03/24/15 07:16	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.23	1		03/24/15 07:16	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.14	1		03/24/15 07:16	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.13	1		03/24/15 07:16	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.18	1		03/24/15 07:16	10061-02-6	
Ethylbenzene	**0.64J**	ug/L	1.0	0.16	1		03/24/15 07:16	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.5	1		03/24/15 07:16	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		03/24/15 07:16	74-88-4	CL
Methylene Chloride	ND	ug/L	4.0	2.0	1		03/24/15 07:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.5	1		03/24/15 07:16	108-10-1	
Styrene	ND	ug/L	1.0	0.069	1		03/24/15 07:16	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		03/24/15 07:16	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		03/24/15 07:16	79-34-5	
Tetrachloroethene	**0.22J**	ug/L	1.0	0.16	1		03/24/15 07:16	127-18-4	
Toluene	**0.27J**	ug/L	1.0	0.11	1		03/24/15 07:16	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.26	1		03/24/15 07:16	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.14	1		03/24/15 07:16	79-00-5	
Trichloroethene	**0.26J**	ug/L	0.40	0.091	1		03/24/15 07:16	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.22	1		03/24/15 07:16	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1.2	1		03/24/15 07:16	96-18-4	
Vinyl acetate	ND	ug/L	10.0	0.21	1		03/24/15 07:16	108-05-4	

ANALYTICAL RESULTS

Project:	Old Landfill
Pace Project No.:	10300055

Sample: BSB-GW-07-031715 **Lab ID: 10300055005** Collected: 03/17/15 14:40 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl chloride	**1.6**	ug/L	0.40	0.10	1		03/24/15 07:16	75-01-4	
Xylene (Total)	**3.7**	ug/L	3.0	0.40	1		03/24/15 07:16	1330-20-7	
m&p-Xylene	**2.1**	ug/L	2.0	0.31	1		03/24/15 07:16	179601-23-1	
o-Xylene	**1.6**	ug/L	1.0	0.094	1		03/24/15 07:16	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	98	%.	75-125		1		03/24/15 07:16	17060-07-0	
Toluene-d8 (S)	93	%.	75-125		1		03/24/15 07:16	2037-26-5	
4-Bromofluorobenzene (S)	103	%.	75-125		1		03/24/15 07:16	460-00-4	

ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10300055

Sample: Trip Blank **Lab ID: 10300055006** Collected: 03/17/15 00:00 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	10.0	1		03/24/15 02:07	67-64-1	
Acrylonitrile	ND	ug/L	10.0	5.0	1		03/24/15 02:07	107-13-1	
Benzene	ND	ug/L	1.0	0.15	1		03/24/15 02:07	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.12	1		03/24/15 02:07	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.20	1		03/24/15 02:07	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		03/24/15 02:07	75-25-2	
Bromomethane	ND	ug/L	4.0	2.0	1		03/24/15 02:07	74-83-9	CL
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		03/24/15 02:07	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.20	1		03/24/15 02:07	75-15-0	L3
Carbon tetrachloride	ND	ug/L	1.0	0.16	1		03/24/15 02:07	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.066	1		03/24/15 02:07	108-90-7	
Chloroethane	ND	ug/L	1.0	0.27	1		03/24/15 02:07	75-00-3	
Chloroform	ND	ug/L	1.0	0.16	1		03/24/15 02:07	67-66-3	
Chloromethane	ND	ug/L	4.0	0.34	1		03/24/15 02:07	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2.0	1		03/24/15 02:07	96-12-8	
Dibromochloromethane	ND	ug/L	4.0	0.50	1		03/24/15 02:07	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.15	1		03/24/15 02:07	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.18	1		03/24/15 02:07	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.16	1		03/24/15 02:07	95-50-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.50	1		03/24/15 02:07	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	5.0	1		03/24/15 02:07	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.50	1		03/24/15 02:07	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.16	1		03/24/15 02:07	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.13	1		03/24/15 02:07	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.20	1		03/24/15 02:07	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.13	1		03/24/15 02:07	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.23	1		03/24/15 02:07	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.14	1		03/24/15 02:07	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.13	1		03/24/15 02:07	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	0.18	1		03/24/15 02:07	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.16	1		03/24/15 02:07	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.5	1		03/24/15 02:07	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		03/24/15 02:07	74-88-4	CL
Methylene Chloride	ND	ug/L	4.0	2.0	1		03/24/15 02:07	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.5	1		03/24/15 02:07	108-10-1	
Styrene	ND	ug/L	1.0	0.069	1		03/24/15 02:07	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		03/24/15 02:07	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		03/24/15 02:07	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.16	1		03/24/15 02:07	127-18-4	
Toluene	ND	ug/L	1.0	0.11	1		03/24/15 02:07	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.26	1		03/24/15 02:07	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.14	1		03/24/15 02:07	79-00-5	
Trichloroethene	ND	ug/L	0.40	0.091	1		03/24/15 02:07	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.22	1		03/24/15 02:07	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	1.2	1		03/24/15 02:07	96-18-4	
Vinyl acetate	ND	ug/L	10.0	0.21	1		03/24/15 02:07	108-05-4	

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ANALYTICAL RESULTS

Project: Old Landfill
Pace Project No.: 10300055

Sample: Trip Blank **Lab ID: 10300055006** Collected: 03/17/15 00:00 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl chloride	ND	ug/L	0.40	0.10	1		03/24/15 02:07	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.40	1		03/24/15 02:07	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.31	1		03/24/15 02:07	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.094	1		03/24/15 02:07	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	101	%.	75-125		1		03/24/15 02:07	17060-07-0	
Toluene-d8 (S)	94	%.	75-125		1		03/24/15 02:07	2037-26-5	
4-Bromofluorobenzene (S)	101	%.	75-125		1		03/24/15 02:07	460-00-4	

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

QC Batch: MERP/13062
Analysis Method: EPA 7470
QC Batch Method: EPA 7470A
Analysis Description: 7470 Mercury Dissolved
Associated Lab Samples: 10300055001

METHOD BLANK: 1925312
Matrix: Water
Associated Lab Samples: 10300055001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	mg/L	0.000041J	0.00020	03/26/15 17:14	

LABORATORY CONTROL SAMPLE: 1925313

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	mg/L	.005	0.0055	110	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1925314 1925315

Parameter	Units	10300055001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	mg/L	0.000042J	.005	.005	0.0052	0.0053	103	105	75-125	2	20	

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

QC Batch: MPRP/53151 Analysis Method: EPA 6020
QC Batch Method: EPA 3020 Analysis Description: 6020 MET Dissolved
Associated Lab Samples: 10300055001

METHOD BLANK: 1924388 Matrix: Water
Associated Lab Samples: 10300055001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.00050	03/26/15 09:14	
Arsenic, Dissolved	mg/L	ND	0.00050	03/26/15 09:14	
Barium, Dissolved	mg/L	ND	0.010	03/26/15 09:14	
Beryllium, Dissolved	mg/L	ND	0.00020	03/26/15 09:14	
Cadmium, Dissolved	mg/L	ND	0.000080	03/26/15 09:14	
Chromium, Dissolved	mg/L	ND	0.00050	03/26/15 09:14	
Cobalt, Dissolved	mg/L	ND	0.00050	03/26/15 09:14	
Copper, Dissolved	mg/L	ND	0.0010	03/26/15 09:14	
Iron, Dissolved	mg/L	ND	0.050	03/26/15 09:14	
Lead, Dissolved	mg/L	ND	0.00010	03/26/15 09:14	
Nickel, Dissolved	mg/L	ND	0.00050	03/26/15 09:14	
Selenium, Dissolved	mg/L	ND	0.00050	03/26/15 09:14	
Vanadium, Dissolved	mg/L	ND	0.0010	03/26/15 09:14	
Zinc, Dissolved	mg/L	ND	0.0050	03/26/15 09:14	

LABORATORY CONTROL SAMPLE: 1924389

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	.08	0.080	99	80-120	
Arsenic, Dissolved	mg/L	.08	0.079	99	80-120	
Barium, Dissolved	mg/L	.08	0.079	99	80-120	
Beryllium, Dissolved	mg/L	.08	0.082	102	80-120	
Cadmium, Dissolved	mg/L	.08	0.084	105	80-120	
Chromium, Dissolved	mg/L	.08	0.082	102	80-120	
Cobalt, Dissolved	mg/L	.08	0.084	104	80-120	
Copper, Dissolved	mg/L	.08	0.088	109	80-120	
Iron, Dissolved	mg/L	1	1.0	103	80-120	
Lead, Dissolved	mg/L	.08	0.084	106	80-120	
Nickel, Dissolved	mg/L	.08	0.084	106	80-120	
Selenium, Dissolved	mg/L	.08	0.080	100	80-120	
Vanadium, Dissolved	mg/L	.08	0.080	100	80-120	
Zinc, Dissolved	mg/L	.08	0.084	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1924390 1924391

Parameter	Units	10300055001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	mg/L	ND	.08	.08	0.083	0.082	104	103	75-125	1	20	

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1924390 1924391

Parameter	Units	10300055001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	0.0013	.08	.08	0.082	0.083	101	102	75-125	1	20	
Barium, Dissolved	mg/L	0.13	.08	.08	0.22	0.21	110	106	75-125	1	20	
Beryllium, Dissolved	mg/L	ND	.08	.08	0.084	0.082	106	103	75-125	3	20	
Cadmium, Dissolved	mg/L	ND	.08	.08	0.087	0.085	108	107	75-125	1	20	
Chromium, Dissolved	mg/L	0.00026J	.08	.08	0.084	0.084	104	104	75-125	0	20	
Cobalt, Dissolved	mg/L	ND	.08	.08	0.085	0.084	106	105	75-125	0	20	
Copper, Dissolved	mg/L	0.0019	.08	.08	0.088	0.088	108	108	75-125	0	20	
Iron, Dissolved	mg/L	ND	1	1	1.1	1.1	105	105	75-125	0	20	
Lead, Dissolved	mg/L	ND	.08	.08	0.085	0.085	107	106	75-125	0	20	
Nickel, Dissolved	mg/L	0.00034J	.08	.08	0.084	0.084	105	104	75-125	1	20	
Selenium, Dissolved	mg/L	0.00063	.08	.08	0.083	0.082	103	101	75-125	1	20	
Vanadium, Dissolved	mg/L	0.0072	.08	.08	0.091	0.090	104	104	75-125	1	20	
Zinc, Dissolved	mg/L	ND	.08	.08	0.085	0.084	105	104	75-125	1	20	

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

QC Batch: MSV/30848 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004, 10300055005, 10300055006

METHOD BLANK: 1923594 Matrix: Water
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004, 10300055005, 10300055006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	03/24/15 01:20	
1,1,1-Trichloroethane	ug/L	ND	1.0	03/24/15 01:20	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	03/24/15 01:20	
1,1,2-Trichloroethane	ug/L	ND	1.0	03/24/15 01:20	
1,1-Dichloroethane	ug/L	ND	1.0	03/24/15 01:20	
1,1-Dichloroethene	ug/L	ND	1.0	03/24/15 01:20	
1,2,3-Trichloropropane	ug/L	ND	4.0	03/24/15 01:20	
1,2-Dibromo-3-chloropropane	ug/L	ND	4.0	03/24/15 01:20	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	03/24/15 01:20	
1,2-Dichlorobenzene	ug/L	ND	1.0	03/24/15 01:20	
1,2-Dichloroethane	ug/L	ND	1.0	03/24/15 01:20	
1,2-Dichloropropane	ug/L	ND	4.0	03/24/15 01:20	
1,4-Dichlorobenzene	ug/L	ND	1.0	03/24/15 01:20	
2-Butanone (MEK)	ug/L	ND	5.0	03/24/15 01:20	
2-Hexanone	ug/L	ND	5.0	03/24/15 01:20	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	03/24/15 01:20	
Acetone	ug/L	ND	20.0	03/24/15 01:20	
Acrylonitrile	ug/L	ND	10.0	03/24/15 01:20	
Benzene	ug/L	ND	1.0	03/24/15 01:20	
Bromochloromethane	ug/L	ND	1.0	03/24/15 01:20	
Bromodichloromethane	ug/L	ND	1.0	03/24/15 01:20	
Bromoform	ug/L	ND	4.0	03/24/15 01:20	
Bromomethane	ug/L	ND	4.0	03/24/15 01:20	CL
Carbon disulfide	ug/L	ND	1.0	03/24/15 01:20	
Carbon tetrachloride	ug/L	ND	1.0	03/24/15 01:20	
Chlorobenzene	ug/L	ND	1.0	03/24/15 01:20	
Chloroethane	ug/L	ND	1.0	03/24/15 01:20	
Chloroform	ug/L	ND	1.0	03/24/15 01:20	
Chloromethane	ug/L	ND	4.0	03/24/15 01:20	
cis-1,2-Dichloroethene	ug/L	ND	1.0	03/24/15 01:20	
cis-1,3-Dichloropropene	ug/L	ND	4.0	03/24/15 01:20	
Dibromochloromethane	ug/L	ND	4.0	03/24/15 01:20	
Dibromomethane	ug/L	ND	4.0	03/24/15 01:20	
Dichlorodifluoromethane	ug/L	ND	1.0	03/24/15 01:20	
Ethylbenzene	ug/L	ND	1.0	03/24/15 01:20	
Iodomethane	ug/L	ND	4.0	03/24/15 01:20	CL
m&p-Xylene	ug/L	ND	2.0	03/24/15 01:20	
Methylene Chloride	ug/L	ND	4.0	03/24/15 01:20	
o-Xylene	ug/L	ND	1.0	03/24/15 01:20	
Styrene	ug/L	ND	1.0	03/24/15 01:20	
Tetrachloroethene	ug/L	ND	1.0	03/24/15 01:20	

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

METHOD BLANK: 1923594 Matrix: Water

Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004, 10300055005, 10300055006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Toluene	ug/L	ND	1.0	03/24/15 01:20	
trans-1,2-Dichloroethene	ug/L	ND	1.0	03/24/15 01:20	
trans-1,3-Dichloropropene	ug/L	ND	4.0	03/24/15 01:20	
trans-1,4-Dichloro-2-butene	ug/L	ND	10.0	03/24/15 01:20	
Trichloroethene	ug/L	ND	0.40	03/24/15 01:20	
Trichlorofluoromethane	ug/L	ND	1.0	03/24/15 01:20	
Vinyl acetate	ug/L	ND	10.0	03/24/15 01:20	
Vinyl chloride	ug/L	ND	0.40	03/24/15 01:20	
Xylene (Total)	ug/L	ND	3.0	03/24/15 01:20	
1,2-Dichloroethane-d4 (S)	%.	97	75-125	03/24/15 01:20	
4-Bromofluorobenzene (S)	%.	106	75-125	03/24/15 01:20	
Toluene-d8 (S)	%.	94	75-125	03/24/15 01:20	

LABORATORY CONTROL SAMPLE: 1923595

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.2	106	75-125	
1,1,1-Trichloroethane	ug/L	20	21.8	109	75-125	
1,1,2,2-Tetrachloroethane	ug/L	20	18.6	93	75-125	
1,1,2-Trichloroethane	ug/L	20	18.5	93	75-125	
1,1-Dichloroethane	ug/L	20	20.1	101	69-125	
1,1-Dichloroethene	ug/L	20	21.7	108	68-125	
1,2,3-Trichloropropane	ug/L	20	18.5	92	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	51.5	103	65-145	
1,2-Dibromoethane (EDB)	ug/L	20	20.5	102	75-125	
1,2-Dichlorobenzene	ug/L	20	20.1	100	75-125	
1,2-Dichloroethane	ug/L	20	19.3	96	73-125	
1,2-Dichloropropane	ug/L	20	20.4	102	75-125	
1,4-Dichlorobenzene	ug/L	20	19.4	97	75-125	
2-Butanone (MEK)	ug/L	100	102	102	63-130	
2-Hexanone	ug/L	100	102	102	75-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	93.0	93	71-126	
Acetone	ug/L	100	111	111	69-131	
Acrylonitrile	ug/L	200	202	101	68-125	
Benzene	ug/L	20	22.6	113	71-125	
Bromochloromethane	ug/L	20	20.6	103	75-125	
Bromodichloromethane	ug/L	20	21.4	107	75-125	
Bromoform	ug/L	20	17.1	86	70-125	
Bromomethane	ug/L	20	7.1	35	30-150	CL
Carbon disulfide	ug/L	20	26.3	132	57-129	L0
Carbon tetrachloride	ug/L	20	24.0	120	75-126	
Chlorobenzene	ug/L	20	18.5	93	75-125	
Chloroethane	ug/L	20	20.6	103	65-134	
Chloroform	ug/L	20	20.4	102	75-125	

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

LABORATORY CONTROL SAMPLE: 1923595

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloromethane	ug/L	20	20.2	101	39-150	
cis-1,2-Dichloroethene	ug/L	20	21.1	105	72-125	
cis-1,3-Dichloropropene	ug/L	20	20.7	104	75-125	
Dibromochloromethane	ug/L	20	15.1	76	75-125	
Dibromomethane	ug/L	20	21.4	107	75-125	
Dichlorodifluoromethane	ug/L	20	23.6	118	50-134	
Ethylbenzene	ug/L	20	18.6	93	75-125	
Iodomethane	ug/L	20	8.0	40	32-137	CL
m&p-Xylene	ug/L	40	41.9	105	75-125	
Methylene Chloride	ug/L	20	21.7	109	73-125	
o-Xylene	ug/L	20	20.8	104	75-125	
Styrene	ug/L	20	20.6	103	75-125	
Tetrachloroethene	ug/L	20	19.5	98	74-125	
Toluene	ug/L	20	19.5	97	74-125	
trans-1,2-Dichloroethene	ug/L	20	21.2	106	69-125	
trans-1,3-Dichloropropene	ug/L	20	18.8	94	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	41.1	82	64-130	
Trichloroethene	ug/L	20	21.7	109	75-125	
Trichlorofluoromethane	ug/L	20	22.1	110	74-127	
Vinyl acetate	ug/L	20	20.2	101	59-127	
Vinyl chloride	ug/L	20	21.3	107	66-132	
Xylene (Total)	ug/L	60	62.7	105	75-125	
1,2-Dichloroethane-d4 (S)	%.			92	75-125	
4-Bromofluorobenzene (S)	%.			93	75-125	
Toluene-d8 (S)	%.			89	75-125	

MATRIX SPIKE SAMPLE: 1925619

Parameter	Units	10300079001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	10	10.3	103	70-138	
1,1,1-Trichloroethane	ug/L	ND	10	9.6	96	55-150	
1,1,2,2-Tetrachloroethane	ug/L	ND	10	10.4	104	64-140	
1,1,2-Trichloroethane	ug/L	ND	10	9.6	96	67-137	
1,1-Dichloroethane	ug/L	ND	10	8.9	89	49-150	
1,1-Dichloroethene	ug/L	ND	10	6.8	68	40-150	
1,2,3-Trichloropropane	ug/L	ND	10	10	100	65-141	
1,2-Dibromo-3-chloropropane	ug/L	ND	25	27.4	109	53-150	
1,2-Dibromoethane (EDB)	ug/L	ND	10	8.9	89	65-137	
1,2-Dichlorobenzene	ug/L	ND	10	9.8	98	66-133	
1,2-Dichloroethane	ug/L	ND	10	8.8	88	54-138	
1,2-Dichloropropane	ug/L	ND	10	9.0	90	62-138	
1,4-Dichlorobenzene	ug/L	ND	10	9.4	94	65-129	
2-Butanone (MEK)	ug/L	ND	50	51.7	103	51-147	
2-Hexanone	ug/L	ND	50	52.4	105	62-145	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	50	48.2	96	59-143	

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

MATRIX SPIKE SAMPLE: 1925619

Parameter	Units	10300079001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Acetone	ug/L	ND	50	58.0	114	63-147	
Acrylonitrile	ug/L	ND	100	104	104	63-126	
Benzene	ug/L	ND	10	8.7	87	53-139	
Bromochloromethane	ug/L	ND	10	8.4	84	64-136	
Bromodichloromethane	ug/L	ND	10	10	100	66-138	
Bromoform	ug/L	ND	10	8.6	86	59-136	
Bromomethane	ug/L	ND	10	6.9	69	30-150	CL
Carbon disulfide	ug/L	ND	10	2.5	25	35-150	M0
Carbon tetrachloride	ug/L	ND	10	9.7	97	56-150	
Chlorobenzene	ug/L	ND	10	8.4	84	65-133	
Chloroethane	ug/L	ND	10	19.3	193	48-150	M1
Chloroform	ug/L	ND	10	9.7	97	57-145	
Chloromethane	ug/L	ND	10	18.2	182	30-150	M1
cis-1,2-Dichloroethene	ug/L	ND	10	9.2	92	49-150	
cis-1,3-Dichloropropene	ug/L	ND	10	8.8	88	64-130	
Dibromochloromethane	ug/L	ND	10	8.0	80	68-138	
Dibromomethane	ug/L	ND	10	9.0	90	67-134	
Dichlorodifluoromethane	ug/L	ND	10	23.6	236	45-150	M1
Ethylbenzene	ug/L	ND	10	7.9	79	55-139	
Iodomethane	ug/L	ND	10	2.6J	26	32-135	CL,M1
m&p-Xylene	ug/L	ND	20	16.8	84	57-141	
Methylene Chloride	ug/L	ND	10	8.4	84	57-132	
o-Xylene	ug/L	ND	10	8.7	87	54-147	
Styrene	ug/L	ND	10	9.6	96	68-134	
Tetrachloroethene	ug/L	ND	10	7.1	71	50-150	
Toluene	ug/L	ND	10	8.8	88	52-148	
trans-1,2-Dichloroethene	ug/L	ND	10	6.4	64	45-150	
trans-1,3-Dichloropropene	ug/L	ND	10	9.2	92	68-132	
trans-1,4-Dichloro-2-butene	ug/L	ND	25	21.5	86	49-135	
Trichloroethene	ug/L	ND	10	8.2	82	52-150	
Trichlorofluoromethane	ug/L	ND	10	22.0	220	55-150	M1
Vinyl acetate	ug/L	ND	10	6.8J	68	41-130	
Vinyl chloride	ug/L	ND	10	20.6	206	43-150	M1
Xylene (Total)	ug/L	ND	30	25.6	85	54-144	
1,2-Dichloroethane-d4 (S)	%.				94	75-125	
4-Bromofluorobenzene (S)	%.				96	75-125	
Toluene-d8 (S)	%.				92	75-125	

SAMPLE DUPLICATE: 1925620

Parameter	Units	10300079002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

SAMPLE DUPLICATE: 1925620

Parameter	Units	10300079002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,2,3-Trichloropropane	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	0.46J		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	
Acrylonitrile	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	CL
Carbon disulfide	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	ND	ND		30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	ND	ND		30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dibromomethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Iodomethane	ug/L	ND	ND		30	CL
m&p-Xylene	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
trans-1,4-Dichloro-2-butene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl acetate	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	98	98	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

SAMPLE DUPLICATE: 1925620

Parameter	Units	10300079002 Result	Dup Result	RPD	Max RPD	Qualifiers
4-Bromofluorobenzene (S)	%.	103	103	1		
Toluene-d8 (S)	%.	92	92	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

QC Batch: WET/40943
Analysis Method: EPA 120.1
QC Batch Method: EPA 120.1
Analysis Description: 120.1 Specific Conductance
Associated Lab Samples: 10300055001, 10300055002, 10300055003

METHOD BLANK: 1923722
Matrix: Water
Associated Lab Samples: 10300055001, 10300055002, 10300055003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	1.0	03/24/15 08:26	

LABORATORY CONTROL SAMPLE: 1923723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	918	92	90-110	

SAMPLE DUPLICATE: 1923724

Parameter	Units	10299409001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1530	1520	0	20	

SAMPLE DUPLICATE: 1923725

Parameter	Units	10300134011 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	477	475	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

QC Batch: WET/40969
QC Batch Method: EPA 120.1
Associated Lab Samples: 10300055004

Analysis Method: EPA 120.1
Analysis Description: 120.1 Specific Conductance

METHOD BLANK: 1924776
Matrix: Water
Associated Lab Samples: 10300055004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	1.0	03/26/15 10:35	

LABORATORY CONTROL SAMPLE: 1924777

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	943	94	90-110	

SAMPLE DUPLICATE: 1924778

Parameter	Units	10299407001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1760	1770	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

QC Batch: WET/40932
Analysis Method: SM 4500-H+B
QC Batch Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004

LABORATORY CONTROL SAMPLE: 1923316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	100	98-102	H6

SAMPLE DUPLICATE: 1923317

Parameter	Units	10300055001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.1	6.2	1	3	H6

SAMPLE DUPLICATE: 1923318

Parameter	Units	10300144001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	3	H6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

QC Batch: WET/21528
QC Batch Method: SM 4500-S F (2000)
Analysis Method: SM 4500-S F (2000)
Analysis Description: 4500S2F Sulfide, Iodometric
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004

METHOD BLANK: 1131165
Matrix: Water
Associated Lab Samples:

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfide	mg/L	ND	5.0	03/24/15 10:25	

LABORATORY CONTROL SAMPLE: 1131166

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfide	mg/L	51.2	46.0	90	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1131167 1131168

Parameter	Units	10300055001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfide	mg/L	ND	51.2	51.2	49.6	48.4	96	94	80-120	2	20	

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

QC Batch: WETA/22249
Analysis Method: EPA 410.4
QC Batch Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004

METHOD BLANK: 1925356
Matrix: Water
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50.0	03/26/15 15:43	

LABORATORY CONTROL SAMPLE: 1925357

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	300	303	101	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1925358 1925359

Parameter	Units	10300055001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chemical Oxygen Demand	mg/L	16.2J	250	250	284	286	107	108	90-110	1	20	

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

QC Batch: WETA/22278
QC Batch Method: SM 4500-NO3 H
Analysis Method: SM 4500-NO3 H
Analysis Description: SM4500NO3-H, NO2 + NO3 pres.
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004

METHOD BLANK: 1928003
Matrix: Water
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	03/31/15 12:03	

LABORATORY CONTROL SAMPLE: 1928004

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.5	99	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1928005 1928006

Parameter	Units	10300055001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	2.9	2.5	2.5	3.4	3.2	21	15	80-120	5	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1928007 1928008

Parameter	Units	10300833005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	ND	2.5	2.5	0.27	0.29	11	12	80-120	7	30	M1

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QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

QC Batch: WETA/22261
Analysis Method: ASTM D516
QC Batch Method: ASTM D516
Analysis Description: ASTM D516 Sulfate Water
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004

METHOD BLANK: 1926701
Matrix: Water
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	03/27/15 09:09	

LABORATORY CONTROL SAMPLE & LCSD: 1926702 1926703

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Sulfate	mg/L	7.5	7.4	7.7	99	103	80-120	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1926704 1926705

Parameter	Units	10300055001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	139	20	20	161	163	107	118	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1926706 1926707

Parameter	Units	10300056002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	723	20	20	718	680	-22	-216	80-120	6	30	M6

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

QC Batch: WETA/22269
QC Batch Method: SM 4500-Cl E
Analysis Method: SM 4500-Cl E
Analysis Description: SM4500Cl-E Chloride
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004

METHOD BLANK: 1926730
Matrix: Water
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	03/27/15 10:49	

LABORATORY CONTROL SAMPLE: 1926731

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	15	16.1	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1926732 1926733

Parameter	Units	10300055001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	47.8	15	15	59.8	60.5	80	85	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1926734 1926735

Parameter	Units	10300056003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	80.5	15	15	94.9	89.5	96	60	80-120	6	30	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill
Pace Project No.: 10300055

QC Batch: WETA/22235
QC Batch Method: SM 4500-CN-E
Analysis Method: SM 4500-CN-E
Analysis Description: SM4500CN-E Cyanide
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004

METHOD BLANK: 1924726
Matrix: Water
Associated Lab Samples: 10300055001, 10300055002, 10300055003, 10300055004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	ug/L	ND	10.0	03/25/15 14:54	

LABORATORY CONTROL SAMPLE: 1924727

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	ug/L	250	241	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1924728 1924729

Parameter	Units	10300026001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	13.0	250	250	22.8	21.0	4	3	80-120	8	30	M1

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1924730 1924731

Parameter	Units	10300055004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	14.9	250	250	248	251	93	94	80-120	1	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project: Old Landfill
Pace Project No.: 10300055

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-G	Pace Analytical Services - Green Bay
PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

1M	Sample was received with headspace.
B	Analyte was detected in the associated method blank.
CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Old Landfill
Pace Project No.: 10300055

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10300055001	BSB-GW-01-031715	EPA 3020	MPRP/53151	EPA 6020	ICPM/23554
10300055001	BSB-GW-01-031715	EPA 7470A	MERP/13062	EPA 7470	MERC/15169
10300055001	BSB-GW-01-031715	EPA 8260	MSV/30848		
10300055002	BSB-GW-02-031715	EPA 8260	MSV/30848		
10300055003	BSB-GW-03-031715	EPA 8260	MSV/30848		
10300055004	BSB-GW-04-031715	EPA 8260	MSV/30848		
10300055005	BSB-GW-07-031715	EPA 8260	MSV/30848		
10300055006	Trip Blank	EPA 8260	MSV/30848		
10300055001	BSB-GW-01-031715	EPA 120.1	WET/40943		
10300055002	BSB-GW-02-031715	EPA 120.1	WET/40943		
10300055003	BSB-GW-03-031715	EPA 120.1	WET/40943		
10300055004	BSB-GW-04-031715	EPA 120.1	WET/40969		
10300055001	BSB-GW-01-031715	SM 4500-H+B	WET/40932		
10300055002	BSB-GW-02-031715	SM 4500-H+B	WET/40932		
10300055003	BSB-GW-03-031715	SM 4500-H+B	WET/40932		
10300055004	BSB-GW-04-031715	SM 4500-H+B	WET/40932		
10300055001	BSB-GW-01-031715	SM 4500-S F (2000)	WET/21528		
10300055002	BSB-GW-02-031715	SM 4500-S F (2000)	WET/21528		
10300055003	BSB-GW-03-031715	SM 4500-S F (2000)	WET/21528		
10300055004	BSB-GW-04-031715	SM 4500-S F (2000)	WET/21528		
10300055001	BSB-GW-01-031715	EPA 410.4	WETA/22249	EPA 410.4	WETA/22257
10300055002	BSB-GW-02-031715	EPA 410.4	WETA/22249	EPA 410.4	WETA/22257
10300055003	BSB-GW-03-031715	EPA 410.4	WETA/22249	EPA 410.4	WETA/22257
10300055004	BSB-GW-04-031715	EPA 410.4	WETA/22249	EPA 410.4	WETA/22257
10300055001	BSB-GW-01-031715	SM 4500-NO3 H	WETA/22278		
10300055002	BSB-GW-02-031715	SM 4500-NO3 H	WETA/22278		
10300055003	BSB-GW-03-031715	SM 4500-NO3 H	WETA/22278		
10300055004	BSB-GW-04-031715	SM 4500-NO3 H	WETA/22278		
10300055001	BSB-GW-01-031715	ASTM D516	WETA/22261		
10300055002	BSB-GW-02-031715	ASTM D516	WETA/22261		
10300055003	BSB-GW-03-031715	ASTM D516	WETA/22261		
10300055004	BSB-GW-04-031715	ASTM D516	WETA/22261		
10300055001	BSB-GW-01-031715	SM 4500-Cl E	WETA/22269		
10300055002	BSB-GW-02-031715	SM 4500-Cl E	WETA/22269		
10300055003	BSB-GW-03-031715	SM 4500-Cl E	WETA/22269		
10300055004	BSB-GW-04-031715	SM 4500-Cl E	WETA/22269		
10300055001	BSB-GW-01-031715	SM 4500-CN-E	WETA/22235	SM 4500-CN-E	WETA/22245
10300055002	BSB-GW-02-031715	SM 4500-CN-E	WETA/22235	SM 4500-CN-E	WETA/22245
10300055003	BSB-GW-03-031715	SM 4500-CN-E	WETA/22235	SM 4500-CN-E	WETA/22245
10300055004	BSB-GW-04-031715	SM 4500-CN-E	WETA/22235	SM 4500-CN-E	WETA/22245

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10300055

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1825364

Section A
Required Client Information:

Company: Pioneer-technical
Address: 1101 S. Montana St
Butte MT 59701
Email To: mmahailovich@pioneer-technical.com
Phone: 406-782-5177 Fax:
Requested Due Date/TAT:

Section B
Required Project Information:

Report To: Mitch Mahailovich
Copy To:
Purchase Order No.:
Project Name: Old landfill
Project Number:

Section C
Invoice Information:

Attention: Dave Schultz
Company Name: Butte Silverbow
Address: 126 W. Granite St.
Pace Quote Reference:
Pace Project Manager: Julie Thieschafer
Pace Profile #: 21705

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: ______

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE	
Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	↓Analysis Test↓ Y/N	PH, Sc, SO4, Cl-	COD, NO2, NO3	Dissolved Metals *	Sulfide	Cyanide	VOC							Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	BSB-GW-01-031715	WT	G	3/17	950	—	—		8	X	X	X	X	X	X				X	X	X	X	X	X								001
2	BSB-GW-02-031715	WT	G	3/17	1155	—	—		7	X	X		X	X	X				X	X		X	X	X								002
3	BSB-GW-03-031715	WT	G	3/17	1510	—	—		7	X	X		X	X	X				X	X		X	X	X								003
4	BSB-GW-04-031715	WT	G	3/17	1440	—	—		7	X	X		X	X	X				X	X		X	X	X								004
5	BSB-GW-07-031715	WT	G	3/17	1440	—	—		3				X											X								005
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Sb, As, Ba, Be, Cd, Cr Co, Cu, Fe, Pb, Ni, Se V, Zn, Hg	DJRenz / PTS	3/18/15	1500	wm / Pace	3/19/15	9:30	4.0	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DJ Renz
SIGNATURE of SAMPLER: DJ
DATE Signed (MM/DD/YY): 3/18/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 28Feb2014 Page 1 of 1
	Document No.: **F-MN-L-213-rev.09**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pioneer Technical

Project #: WO# : 10300055

10300055

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 8053 9435 2504

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☐ Bubble Wrap [✓ ☒ Bubble Bags] ~~☒ None~~ 3/19/15 ☐ Other: **Temp Blank?** ☐ Yes ☒ No

Thermom. Used: ☒ B88A9130516413 ☐ B88A912167504 ☐ B88A9132521491 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 4.0 **Cooler Temp Corrected (°C):** 4.0 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** — **Date and Initials of Person Examining Contents:** 3/19/15

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☐ Yes	☒ No	☐ N/A	10. Broken vial for sample 1
Filtered Volume Received for Dissolved Tests?	☒ Yes	☐ No	☐ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☒ Yes	☐ No	☐ N/A	13. ☒ HNO_3 ☒ H_2SO_4 ☒ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☒ Yes	☐ No	☐ N/A	Sample # 1/1 1/1 2/2
Exceptions: [✓ VOA], Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☒ Yes	☐ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	14.
Trip Blank Present?	☐ Yes	☒ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: **Date:** 3/20/15

Note: *Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)*

Chain of Custody

Pace Analytical
www.pacelabs.com

RS

40112052

Workorder: 10300055 **Workorder Name:** Old Landfill **Owner Received Date:** 3/19/2015 **Results Requested By:** 4/1/2015

Report To
Julie Bowser
Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone (612)607-1700
Fax (612)607-6444

Subcontract To
Pace Analytical Green Bay
1241 Bellevue Street
Suite 9
Green Bay, WI 54302
Phone (920)469-2436

Item	Sample ID	Sample Type	Collect Date/Time	Lab ID	Matrix	Preserved Containers: Other	Requested Analysis: Sulfide	LAB USE ONLY
1	BSB-GW-01-031715	PS	3/17/2015 09:50	10300055001	Water	1	X	1-500mL pJ
2	BSB-GW-02-031715	PS	3/17/2015 11:55	10300055002	Water	1	X	
3	BSB-GW-03-031715	PS	3/17/2015 15:10	10300055003	Water	1	X	
4	BSB-GW-04-031715	PS	3/17/2015 14:40	10300055004	Water	1	X	
5								

Transfers	Released By	Date/Time	Received By	Date/Time	Comments
1	Julie Bowser	3/23/15		~~3/23/15~~	RS 3/23/15
2	Waltco	3/21/15 1000	Susan Kluge	3/21/15 1010	
3					

Cooler Temperature on Receipt 5 °C | Custody Seal [✓ Y] or N | Received on Ice [✓ Y] or N | Samples Intact [✓ Y] or N

****In order to maintain client confidentiality, location/name of the sampling site, sampler's name and signature may not be provided on this COC document.*
This chain of custody is considered complete as is since this information is available in the owner laboratory.

Sample Condition Upon Receipt

Pace Analytical™

Pace Analytical Services, Inc.
1241 Bellevue Street, Suite 9
Green Bay, WI 54302

Project #: WO# : 40112052
40112052

Client Name: Pace MN

Courier: ☐ Fed Ex ☐ UPS ☐ Client ☐ Pace Other: Waltco

Tracking #:

Custody Seal on Cooler/Box Present: ☒ yes ☐ no Seals intact: ☒ yes ☐ no

Custody Seal on Samples Present: ☐ yes ☒ no Seals intact: ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☒ None ☐ Other

Thermometer Used SR-32 **Type of Ice:** [✓ Wet] Blue Dry None ☒ Samples on ice, cooling process has begun

Cooler Temperature Uncorr: 5 /Corr: 5 **Biological Tissue is Frozen:** ☐ yes ☐ no

Temp Blank Present: ☒ yes ☐ no

Temp should be above freezing to 6°C for all sample except Biota.
Frozen Biota Samples should be received ≤ 0°C.

Person examining contents:
Date: 3/23/15
Initials: RS

		Comments:
Chain of Custody Present:	☑Yes ☑No ☐N/A	1. CoC rec'd 3/23/15 RS 3/23/15
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☐Yes ☐No ☑N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
- VOA Samples frozen upon receipt	☐Yes ☐No	Date/Time:
Short Hold Time Analysis (<72hr):	☑Yes ☐No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
-Pace IR Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☐N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix: W		
All containers needing preservation have been checked. (Non-Compliance noted in 13.)	☑Yes ☐No ☐N/A	13. ☐ HNO3 ☐ H2SO4 ☐ NaOH ☒ NaOH +ZnAct
All containers needing preservation are found to be in compliance with EPA recommendation. (HNO3, H2SO4 ≤2; NaOH+ZnAct ≥9, NaOH ≥12)	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, TOX, TOH, O&G, WIDROW, Phenolics, OTHER:	☐Yes ☑No	Initial when completed RS / Lab Std #ID of preservative / Date/ Time:
Headspace in VOA Vials (>6mm):	☐Yes ☐No ☑N/A	14.
Trip Blank Present:	☐Yes ☐No ☑N/A	15.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):		

Client Notification/ Resolution: If checked, see attached form for additional comments ☐

Person Contacted: Date/Time:

Comments/ Resolution:

Project Manager Review: CR **Date:** 3/23/15

F-GB-C-031-Rev.02 (28Oct2013) SCUR Form

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

March 27, 2015

Brad Hollamon
Pioneer Technical Services
1101 S. Montana Street
Butte, MT 59701

RE: Project: Clark Tailings
Pace Project No.: 10300056

Dear Brad Hollamon:

Enclosed are the analytical results for sample(s) received by the laboratory on March 19, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Julie Bowser
julie.bowser@pacelabs.com
Project Manager

Enclosures

cc: Mitch Mihailovich, Pioneer Technical Services

CERTIFICATIONS

Project: Clark Tailings
Pace Project No.: 10300056

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #:14-008r
Georgia Certification #: 959
Georgia EPD #: Pace
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
West Virginia Certification #: 382
West Virginia DHHR #:9952C
Wisconsin Certification #: 999407970

SAMPLE SUMMARY

Project: Clark Tailings
Pace Project No.: 10300056

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10300056001	**BSB-GW-05-031815**	Water	03/18/15 10:40	03/19/15 09:30
10300056002	**BSB-GW-06-031815**	Water	03/18/15 11:45	03/19/15 09:30
10300056003	**BSB-GW-08-031815**	Water	03/18/15 11:45	03/19/15 09:30
10300056004	**BSB-GW-09-031715**	Water	03/17/15 16:10	03/19/15 09:30

SAMPLE ANALYTE COUNT

Project: Clark Tailings
Pace Project No.: 10300056

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10300056001	**BSB-GW-05-031815**	EPA 200.8	TT3	14	PASI-M
		EPA 245.1	JDD	1	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
10300056002	**BSB-GW-06-031815**	EPA 200.8	TT3	14	PASI-M
		EPA 245.1	JDD	1	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
10300056003	**BSB-GW-08-031815**	EPA 200.8	TT3	14	PASI-M
		EPA 245.1	JDD	1	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
10300056004	**BSB-GW-09-031715**	EPA 200.8	TT3	14	PASI-M
		EPA 245.1	JDD	1	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M

PROJECT NARRATIVE

Project:	Clark Tailings
Pace Project No.:	10300056

Method: EPA 200.8
Description: 200.8 MET ICPMS, Dissolved
Client: BPAR-PIONEER-MT
Date: March 27, 2015

General Information:
4 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/53102

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10300056002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1923298)
  - Zinc, Dissolved
- MSD (Lab ID: 1923299)
  - Zinc, Dissolved

Additional Comments:

PROJECT NARRATIVE

Project:	Clark Tailings
Pace Project No.:	10300056

Method: **EPA 245.1**
Description: 245.1 Mercury, Dissolved
Client: BPAR-PIONEER-MT
Date: March 27, 2015

General Information:
4 samples were analyzed for EPA 245.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 245.1 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project:	Clark Tailings
Pace Project No.:	10300056

Method: **EPA 120.1**
Description: 120.1 Specific Conductance
Client: BPAR-PIONEER-MT
Date: March 27, 2015

General Information:
4 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: Clark Tailings
Pace Project No.: 10300056

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: BPAR-PIONEER-MT
Date: March 27, 2015

General Information:
4 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA recommended holding time.

- BSB-GW-05-031815 (Lab ID: 10300056001)
- BSB-GW-06-031815 (Lab ID: 10300056002)
- BSB-GW-08-031815 (Lab ID: 10300056003)
- BSB-GW-09-031715 (Lab ID: 10300056004)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: Clark Tailings
Pace Project No.: 10300056

Method: **ASTM D516**
Description: ASTM D516 Sulfate Water
Client: BPAR-PIONEER-MT
Date: March 27, 2015

General Information:
4 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22261

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10300055001,10300056002

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 1926706)
  - Sulfate
- MSD (Lab ID: 1926707)
  - Sulfate

Additional Comments:

PROJECT NARRATIVE

Project:	Clark Tailings
Pace Project No.:	10300056

Method: **SM 4500-Cl E**
Description: SM4500Cl-E Chloride
Client: BPAR-PIONEER-MT
Date: March 27, 2015

General Information:
4 samples were analyzed for SM 4500-Cl E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/22269

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10300055001,10300056003

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MSD (Lab ID: 1926735)
  - Chloride

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

ANALYTICAL RESULTS

Project: Clark Tailings
Pace Project No.: 10300056

Sample: BSB-GW-05-031815 **Lab ID: 10300056001** Collected: 03/18/15 10:40 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	ND	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 20:55	7440-36-0	
Arsenic, Dissolved	**0.097**	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 20:55	7440-38-2	
Barium, Dissolved	**0.022**	mg/L	0.00030	0.00014	1	03/23/15 13:09	03/23/15 20:55	7440-39-3	
Beryllium, Dissolved	**0.00040**	mg/L	0.00020	0.000066	1	03/23/15 13:09	03/23/15 20:55	7440-41-7	
Cadmium, Dissolved	**0.015**	mg/L	0.000080	0.000033	1	03/23/15 13:09	03/23/15 20:55	7440-43-9	
Chromium, Dissolved	ND	mg/L	0.00050	0.00022	1	03/23/15 13:09	03/23/15 20:55	7440-47-3	
Cobalt, Dissolved	**0.043**	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 20:55	7440-48-4	
Copper, Dissolved	**0.00052J**	mg/L	0.0010	0.00022	1	03/23/15 13:09	03/23/15 20:55	7440-50-8	
Iron, Dissolved	**13.8**	mg/L	0.050	0.0080	1	03/23/15 13:09	03/23/15 20:55	7439-89-6	
Lead, Dissolved	**0.000048J**	mg/L	0.00010	0.000046	1	03/23/15 13:09	03/23/15 20:55	7439-92-1	
Nickel, Dissolved	**0.038**	mg/L	0.00050	0.00023	1	03/23/15 13:09	03/23/15 20:55	7440-02-0	
Selenium, Dissolved	ND	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 20:55	7782-49-2	
Vanadium, Dissolved	**0.00037J**	mg/L	0.0010	0.00021	1	03/23/15 13:09	03/23/15 20:55	7440-62-2	
Zinc, Dissolved	**51.1**	mg/L	1.0	0.50	200	03/23/15 13:09	03/23/15 20:58	7440-66-6	
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury, Dissolved	ND	mg/L	0.00020	0.000026	1	03/22/15 19:20	03/25/15 20:32	7439-97-6	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1710**	umhos/cm	1.0	1.0	1		03/24/15 08:33		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**5.7**	Std. Units	0.10	0.10	1		03/23/15 14:41		H6
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**926**	mg/L	125	62.5	50		03/27/15 09:37	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**33.0**	mg/L	2.0	1.0	2		03/27/15 10:55	16887-00-6	

ANALYTICAL RESULTS

Project: Clark Tailings
Pace Project No.: 10300056

Sample: BSB-GW-06-031815 Lab ID: **10300056002** Collected: 03/18/15 11:45 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	ND	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 21:01	7440-36-0	
Arsenic, Dissolved	**0.0011**	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 21:01	7440-38-2	
Barium, Dissolved	**0.017**	mg/L	0.00030	0.00014	1	03/23/15 13:09	03/23/15 21:01	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000066	1	03/23/15 13:09	03/23/15 21:01	7440-41-7	
Cadmium, Dissolved	**0.0012**	mg/L	0.000080	0.000033	1	03/23/15 13:09	03/23/15 21:01	7440-43-9	
Chromium, Dissolved	**0.00040J**	mg/L	0.00050	0.00022	1	03/23/15 13:09	03/23/15 21:01	7440-47-3	
Cobalt, Dissolved	**0.00032J**	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 21:01	7440-48-4	
Copper, Dissolved	**0.0028**	mg/L	0.0010	0.00022	1	03/23/15 13:09	03/23/15 21:01	7440-50-8	
Iron, Dissolved	**0.055**	mg/L	0.050	0.0080	1	03/23/15 13:09	03/23/15 21:01	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	03/23/15 13:09	03/23/15 21:01	7439-92-1	
Nickel, Dissolved	**0.041**	mg/L	0.00050	0.00023	1	03/23/15 13:09	03/23/15 21:01	7440-02-0	
Selenium, Dissolved	ND	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 21:01	7782-49-2	
Vanadium, Dissolved	**0.0023**	mg/L	0.0010	0.00021	1	03/23/15 13:09	03/23/15 21:01	7440-62-2	
Zinc, Dissolved	**0.62**	mg/L	0.050	0.025	10	03/23/15 13:09	03/23/15 21:09	7440-66-6	M1
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury, Dissolved	ND	mg/L	0.00020	0.000026	1	03/22/15 19:20	03/25/15 20:38	7439-97-6	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1720**	umhos/cm	1.0	1.0	1		03/24/15 08:34		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.0**	Std. Units	0.10	0.10	1		03/23/15 14:42		H6
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**723**	mg/L	62.5	31.2	25		03/27/15 09:28	14808-79-8	M6
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**76.7**	mg/L	5.0	2.5	5		03/27/15 10:46	16887-00-6	

ANALYTICAL RESULTS

Project: Clark Tailings
Pace Project No.: 10300056

Sample: BSB-GW-08-031815 **Lab ID: 10300056003** Collected: 03/18/15 11:45 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	ND	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 21:24	7440-36-0	
Arsenic, Dissolved	**0.0011**	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 21:24	7440-38-2	
Barium, Dissolved	**0.017**	mg/L	0.00030	0.00014	1	03/23/15 13:09	03/23/15 21:24	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000066	1	03/23/15 13:09	03/23/15 21:24	7440-41-7	
Cadmium, Dissolved	**0.0012**	mg/L	0.000080	0.000033	1	03/23/15 13:09	03/23/15 21:24	7440-43-9	
Chromium, Dissolved	**0.00034J**	mg/L	0.00050	0.00022	1	03/23/15 13:09	03/23/15 21:24	7440-47-3	
Cobalt, Dissolved	**0.00036J**	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 21:24	7440-48-4	
Copper, Dissolved	**0.0026**	mg/L	0.0010	0.00022	1	03/23/15 13:09	03/23/15 21:24	7440-50-8	
Iron, Dissolved	ND	mg/L	0.050	0.0080	1	03/23/15 13:09	03/23/15 21:24	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	03/23/15 13:09	03/23/15 21:24	7439-92-1	
Nickel, Dissolved	**0.041**	mg/L	0.00050	0.00023	1	03/23/15 13:09	03/23/15 21:24	7440-02-0	
Selenium, Dissolved	ND	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 21:24	7782-49-2	
Vanadium, Dissolved	**0.0023**	mg/L	0.0010	0.00021	1	03/23/15 13:09	03/23/15 21:24	7440-62-2	
Zinc, Dissolved	**0.60**	mg/L	0.025	0.012	5	03/23/15 13:09	03/23/15 21:26	7440-66-6	
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury, Dissolved	ND	mg/L	0.00020	0.000026	1	03/22/15 19:20	03/25/15 20:40	7439-97-6	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1750**	umhos/cm	1.0	1.0	1		03/24/15 08:36		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.0**	Std. Units	0.10	0.10	1		03/23/15 14:42		H6
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**697**	mg/L	62.5	31.2	25		03/27/15 09:30	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**80.5**	mg/L	5.0	2.5	5		03/27/15 10:46	16887-00-6	M1

ANALYTICAL RESULTS

Project: Clark Tailings
Pace Project No.: 10300056

Sample: BSB-GW-09-031715 **Lab ID: 10300056004** Collected: 03/17/15 16:10 Received: 03/19/15 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	ND	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 21:29	7440-36-0	
Arsenic, Dissolved	ND	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 21:29	7440-38-2	
Barium, Dissolved	ND	mg/L	0.00030	0.00014	1	03/23/15 13:09	03/23/15 21:29	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000066	1	03/23/15 13:09	03/23/15 21:29	7440-41-7	
Cadmium, Dissolved	ND	mg/L	0.000080	0.000033	1	03/23/15 13:09	03/23/15 21:29	7440-43-9	
Chromium, Dissolved	ND	mg/L	0.00050	0.00022	1	03/23/15 13:09	03/23/15 21:29	7440-47-3	
Cobalt, Dissolved	ND	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 21:29	7440-48-4	
Copper, Dissolved	**0.00047J**	mg/L	0.0010	0.00022	1	03/23/15 13:09	03/23/15 21:29	7440-50-8	
Iron, Dissolved	**0.012J**	mg/L	0.050	0.0080	1	03/23/15 13:09	03/23/15 21:29	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	03/23/15 13:09	03/23/15 21:29	7439-92-1	
Nickel, Dissolved	ND	mg/L	0.00050	0.00023	1	03/23/15 13:09	03/23/15 21:29	7440-02-0	
Selenium, Dissolved	ND	mg/L	0.00050	0.00025	1	03/23/15 13:09	03/23/15 21:29	7782-49-2	
Vanadium, Dissolved	ND	mg/L	0.0010	0.00021	1	03/23/15 13:09	03/23/15 21:29	7440-62-2	
Zinc, Dissolved	ND	mg/L	0.0050	0.0025	1	03/23/15 13:09	03/23/15 21:29	7440-66-6	
245.1 Mercury, Dissolved	Analytical Method: EPA 245.1 Preparation Method: EPA 245.1								
Mercury, Dissolved	ND	mg/L	0.00020	0.000026	1	03/22/15 19:20	03/25/15 20:42	7439-97-6	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**2.8**	umhos/cm	1.0	1.0	1		03/24/15 08:37		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.7**	Std. Units	0.10	0.10	1		03/23/15 14:45		H6
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	ND	mg/L	2.5	1.2	1		03/27/15 08:59	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	ND	mg/L	1.0	0.50	1		03/27/15 10:49	16887-00-6	

QUALITY CONTROL DATA

Project: Clark Tailings
Pace Project No.: 10300056

QC Batch: MERP/13032
Analysis Method: EPA 245.1
QC Batch Method: EPA 245.1
Analysis Description: 245.1 Mercury - Dissolved
Associated Lab Samples: 10300056001, 10300056002, 10300056003, 10300056004

METHOD BLANK: 1923195
Matrix: Water
Associated Lab Samples: 10300056001, 10300056002, 10300056003, 10300056004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Mercury, Dissolved	mg/L	ND	0.00020	03/25/15 20:28	

LABORATORY CONTROL SAMPLE: 1923196

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Mercury, Dissolved	mg/L	.005	0.0052	103	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1923197 1923198

Parameter	Units	10300056001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Mercury, Dissolved	mg/L	ND	.005	.005	0.0052	0.0052	105	103	70-130	2	20	

QUALITY CONTROL DATA

Project: Clark Tailings
Pace Project No.: 10300056

QC Batch: MPRP/53102
Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved
Associated Lab Samples: 10300056001, 10300056002, 10300056003, 10300056004

METHOD BLANK: 1923253
Matrix: Water
Associated Lab Samples: 10300056001, 10300056002, 10300056003, 10300056004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.00050	03/23/15 20:44	
Arsenic, Dissolved	mg/L	ND	0.00050	03/23/15 20:44	
Barium, Dissolved	mg/L	ND	0.00030	03/23/15 20:44	
Beryllium, Dissolved	mg/L	ND	0.00020	03/23/15 20:44	
Cadmium, Dissolved	mg/L	ND	0.000080	03/23/15 20:44	
Chromium, Dissolved	mg/L	ND	0.00050	03/23/15 20:44	
Cobalt, Dissolved	mg/L	ND	0.00050	03/23/15 20:44	
Copper, Dissolved	mg/L	ND	0.0010	03/23/15 20:44	
Iron, Dissolved	mg/L	ND	0.050	03/23/15 20:44	
Lead, Dissolved	mg/L	ND	0.00010	03/23/15 20:44	
Nickel, Dissolved	mg/L	ND	0.00050	03/23/15 20:44	
Selenium, Dissolved	mg/L	ND	0.00050	03/23/15 20:44	
Vanadium, Dissolved	mg/L	ND	0.0010	03/23/15 20:44	
Zinc, Dissolved	mg/L	ND	0.0050	03/23/15 20:44	

LABORATORY CONTROL SAMPLE: 1923254

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	.08	0.077	97	85-115	
Arsenic, Dissolved	mg/L	.08	0.079	99	85-115	
Barium, Dissolved	mg/L	.08	0.081	101	85-115	
Beryllium, Dissolved	mg/L	.08	0.078	98	85-115	
Cadmium, Dissolved	mg/L	.08	0.088	110	85-115	
Chromium, Dissolved	mg/L	.08	0.086	107	85-115	
Cobalt, Dissolved	mg/L	.08	0.085	106	85-115	
Copper, Dissolved	mg/L	.08	0.089	111	85-115	
Iron, Dissolved	mg/L	1	1.1	109	85-115	
Lead, Dissolved	mg/L	.08	0.086	107	85-115	
Nickel, Dissolved	mg/L	.08	0.085	107	85-115	
Selenium, Dissolved	mg/L	.08	0.084	105	85-115	
Vanadium, Dissolved	mg/L	.08	0.084	105	85-115	
Zinc, Dissolved	mg/L	.08	0.083	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1923298 1923299

Parameter	Units	10300056002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	mg/L	ND	.08	.08	0.079	0.078	99	98	70-130	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Clark Tailings
Pace Project No.: 10300056

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1923298 1923299

Parameter	Units	10300056002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	0.0011	.08	.08	0.080	0.081	99	100	70-130	0	20	
Barium, Dissolved	mg/L	0.017	.08	.08	0.095	0.095	98	98	70-130	0	20	
Beryllium, Dissolved	mg/L	ND	.08	.08	0.079	0.080	99	100	70-130	1	20	
Cadmium, Dissolved	mg/L	0.0012	.08	.08	0.079	0.080	97	98	70-130	1	20	
Chromium, Dissolved	mg/L	0.00040J	.08	.08	0.081	0.081	101	100	70-130	1	20	
Cobalt, Dissolved	mg/L	0.00032J	.08	.08	0.081	0.081	101	101	70-130	0	20	
Copper, Dissolved	mg/L	0.0028	.08	.08	0.077	0.077	93	93	70-130	0	20	
Iron, Dissolved	mg/L	0.055	1	1	1.1	1.0	100	99	70-130	1	20	
Lead, Dissolved	mg/L	ND	.08	.08	0.078	0.078	98	97	70-130	0	20	
Nickel, Dissolved	mg/L	0.041	.08	.08	0.12	0.12	101	100	70-130	1	20	
Selenium, Dissolved	mg/L	ND	.08	.08	0.084	0.085	104	106	70-130	2	20	
Vanadium, Dissolved	mg/L	0.0023	.08	.08	0.084	0.084	102	102	70-130	1	20	
Zinc, Dissolved	mg/L	0.62	.08	.08	0.65	0.66	46	58	70-130	2	20	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Clark Tailings
Pace Project No.: 10300056

QC Batch: WET/40943
Analysis Method: EPA 120.1
QC Batch Method: EPA 120.1
Analysis Description: 120.1 Specific Conductance
Associated Lab Samples: 10300056001, 10300056002, 10300056003, 10300056004

METHOD BLANK: 1923722
Matrix: Water
Associated Lab Samples: 10300056001, 10300056002, 10300056003, 10300056004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	1.0	03/24/15 08:26	

LABORATORY CONTROL SAMPLE: 1923723

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	918	92	90-110	

SAMPLE DUPLICATE: 1923724

Parameter	Units	10299409001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1530	1520	0	20	

SAMPLE DUPLICATE: 1923725

Parameter	Units	10300134011 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	477	475	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Clark Tailings
Pace Project No.: 10300056

QC Batch: WET/40932
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 10300056001, 10300056002, 10300056003, 10300056004

LABORATORY CONTROL SAMPLE: 1923316

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	100	98-102	H6

SAMPLE DUPLICATE: 1923317

Parameter	Units	10300055001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	6.1	6.2	1	3	H6

SAMPLE DUPLICATE: 1923318

Parameter	Units	10300144001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.1	7.1	0	3	H6

QUALITY CONTROL DATA

Project: Clark Tailings
Pace Project No.: 10300056

QC Batch: WETA/22261
Analysis Method: ASTM D516
QC Batch Method: ASTM D516
Analysis Description: ASTM D516 Sulfate Water
Associated Lab Samples: 10300056001, 10300056002, 10300056003, 10300056004

METHOD BLANK: 1926701
Matrix: Water
Associated Lab Samples: 10300056001, 10300056002, 10300056003, 10300056004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	03/27/15 09:09	

LABORATORY CONTROL SAMPLE & LCSD: 1926702 1926703

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Sulfate	mg/L	7.5	7.4	7.7	99	103	80-120	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1926704 1926705

Parameter	Units	10300055001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	139	20	20	161	163	107	118	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1926706 1926707

Parameter	Units	10300056002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	723	20	20	718	680	-22	-216	80-120	6	30	M6

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Clark Tailings
Pace Project No.: 10300056

QC Batch: WETA/22269
Analysis Method: SM 4500-Cl E
QC Batch Method: SM 4500-Cl E
Analysis Description: SM4500Cl-E Chloride
Associated Lab Samples: 10300056001, 10300056002, 10300056003, 10300056004

METHOD BLANK: 1926730
Matrix: Water
Associated Lab Samples: 10300056001, 10300056002, 10300056003, 10300056004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	03/27/15 10:49	

LABORATORY CONTROL SAMPLE: 1926731

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	15	16.1	107	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1926732 1926733

Parameter	Units	10300055001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	47.8	15	15	59.8	60.5	80	85	80-120	1	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1926734 1926735

Parameter	Units	10300056003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	80.5	15	15	94.9	89.5	96	60	80-120	6	30	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project:	Clark Tailings
Pace Project No.:	10300056

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Clark Tailings
Pace Project No.: 10300056

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10300056001	**BSB-GW-05-031815**	EPA 200.8	MPRP/53102	EPA 200.8	ICPM/23523
10300056002	**BSB-GW-06-031815**	EPA 200.8	MPRP/53102	EPA 200.8	ICPM/23523
10300056003	**BSB-GW-08-031815**	EPA 200.8	MPRP/53102	EPA 200.8	ICPM/23523
10300056004	**BSB-GW-09-031715**	EPA 200.8	MPRP/53102	EPA 200.8	ICPM/23523
10300056001	**BSB-GW-05-031815**	EPA 245.1	MERP/13032	EPA 245.1	MERC/15121
10300056002	**BSB-GW-06-031815**	EPA 245.1	MERP/13032	EPA 245.1	MERC/15121
10300056003	**BSB-GW-08-031815**	EPA 245.1	MERP/13032	EPA 245.1	MERC/15121
10300056004	**BSB-GW-09-031715**	EPA 245.1	MERP/13032	EPA 245.1	MERC/15121
10300056001	**BSB-GW-05-031815**	EPA 120.1	WET/40943		
10300056002	**BSB-GW-06-031815**	EPA 120.1	WET/40943		
10300056003	**BSB-GW-08-031815**	EPA 120.1	WET/40943		
10300056004	**BSB-GW-09-031715**	EPA 120.1	WET/40943		
10300056001	**BSB-GW-05-031815**	SM 4500-H+B	WET/40932		
10300056002	**BSB-GW-06-031815**	SM 4500-H+B	WET/40932		
10300056003	**BSB-GW-08-031815**	SM 4500-H+B	WET/40932		
10300056004	**BSB-GW-09-031715**	SM 4500-H+B	WET/40932		
10300056001	**BSB-GW-05-031815**	ASTM D516	WETA/22261		
10300056002	**BSB-GW-06-031815**	ASTM D516	WETA/22261		
10300056003	**BSB-GW-08-031815**	ASTM D516	WETA/22261		
10300056004	**BSB-GW-09-031715**	ASTM D516	WETA/22261		
10300056001	**BSB-GW-05-031815**	SM 4500-Cl E	WETA/22269		
10300056002	**BSB-GW-06-031815**	SM 4500-Cl E	WETA/22269		
10300056003	**BSB-GW-08-031815**	SM 4500-Cl E	WETA/22269		
10300056004	**BSB-GW-09-031715**	SM 4500-Cl E	WETA/22269		

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Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10300556

Page: 1 of 1

1825363

Section A
Required Client Information:

Company: Pioneer Technical Services
Address: 1101 S. Montana St.
Butte, MT 59701
Email To:
Phone: 406-782-5177 Fax:
Requested Due Date/TAT:

Section B
Required Project Information:

Report To: ~~JD Emmert~~
Copy To: Mitch Maksilovich
Purchase Order No.:
Project Name: Clark Tailings
Project Number:

Section C
Invoice Information:

Attention: Becky Krause
Company Name: Pioneer Technical
Address: Services 1101 S.
Pace Quote Reference: Montana St. Butte
Pace Project Manager: MT. 59701
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☑ OTHER DEQ

Site Location STATE: MT

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	↓Analysis Test↓ Y/N	SC/PH/SO4/CL⁻	Dissolved Metals											Residual Chlorine (Y/N)	Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe Pb, Ni, Se, V, Zn, Hg. Pace Project No./ Lab I.D.
1	BSB-GW-05-031815		G	3/18/15	10:40	—	—		2	1		1							X	X												001
2	BSB-GW-06-031815		G	3/18/15	1145	—	—		2	1		1							X	X												002
3	BSB-GW-08-031815		G	3/18/15	1145	—	—		2	1		1							X	X												003
4	BSB-GW-09-031715		G	3/17/15	16:10	—	—		2	1		1							X	X												004
5	trip blanks								2				2																			005
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		3/18/15	1500	PACE	3-19-15	930	4.0	Y	Y	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Thomas Hickey
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY): 03/18/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.6% per month for any invoices not paid within 30 days.

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 28Feb2014 Page 1 of 1
	Document No.: **F-MN-L-213-rev.09**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: Pioneer Technical Services

Project #:

WO#:10300056

10300056

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client

☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:

Tracking Number: 8053 8435 2515

Custody Seal on Cooler/Box Present? ☑ Yes ☐ No **Seals Intact?** ☑ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☑ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other:

Temp Blank? ☑ Yes ☐ No

Thermom. Used: ☑ B88A9130516413 ☐ B88A912167504 ☐ B88A9132521491

Type of Ice: ☑ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 4.0 **Cooler Temp Corrected (°C):** 4.0

Biological Tissue Frozen? ☐ Yes ☐ No ☑ N/A

Temp should be above freezing to 6°C **Correction Factor:** true

Date and Initials of Person Examining Contents: 3-19-15

				Comments:
Chain of Custody Present?	☑ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☑ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☑ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☑ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☑ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☑ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☑ No	☐ N/A	7.
Sufficient Volume?	☑ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☑ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☑ Yes	☐ No	☐ N/A	
Containers Intact?	☑ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☑ Yes	☐ No	☐ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☑ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked?	☑ Yes	☐ No	☐ N/A	13. ☐ HNO₃ ☐ H₂SO₄ ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO₃, H₂SO₄, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide)	☑ Yes	☐ No	☐ N/A	Sample #
Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☐ Yes	☑ No		Initial when completed: Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☑ No	☐ N/A	14.
Trip Blank Present?	☑ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present? Pace Trip Blank Lot # (if purchased): 021815-01	☑ Yes	☐ No	☐ N/A	

CLIENT NOTIFICATION/RESOLUTION

Field Data Required? ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution: JMB:Trip blanks moved to wo#10300055, which is another project in same cooler w/ VOA

Project Manager Review: Julie Bue **Date:** 3/20/15

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1825364

Section A
Required Client Information:

Company: Pioneer-technical
Address: 1101 S. Montana St
Butte MT 59701
Email To: mMahailovich@pioneer-technical.com
Phone: 406-782-5177
Fax:
Requested Due Date/TAT:

Section B
Required Project Information:

Report To: Mitch Mahailovich
Copy To:
Purchase Order No.:
Project Name: Old landfill
Project Number:

Section C
Invoice Information:

Attention: Dave Schultz
Company Name: Butte SilverBow
Address: 126 W. Granite St.
Pace Quote Reference:
Pace Project Manager: Julie Thieschafer
Pace Profile #: 21705

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location
STATE: ______

Section D
Required Client Information

Matrix Codes
MATRIX / CODE
Drinking Water DW
Water WT
Waste Water WW
Product P
Soil/Solid SL
Oil OL
Wipe WP
Air AR
Tissue TS
Other OT

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved	Preservatives H_2SO_4	Preservatives HNO_3	Preservatives HCl	Preservatives NaOH	Preservatives $Na_2S_2O_3$	Preservatives Methanol	Preservatives Other	Y/N ➡ ⬇Analysis Test⬇	PH, SC, SO4, Cl-	COD, NO2, NO3	Dissolved Metals *	Sulfide	Cyanide	VOC	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	BSB-GW-01-031715	WT	G	3/17	950	—	—		8	X	X	X	X	X	X				X	X	X	X	X	X		
2	BSB-GW-02-031715	WT	G	3/17	1155	—	—		7	X	X		X	X	X				X	X		X	X	X		
3	BSB-GW-03-031715	WT	G	3/17	1510	—	—		7	X	X		X	X	X				X	X		X	X	X		
4	BSB-GW-04-031715	WT	G	3/17	1440	—	—		7	X	X		X	X	X				X	X		X	X	X		
5	BSB-GW-07-031715	WT	G	3/17	1440	—	—		3				X											X		
6																										
7																										
8																										
9																										
10																										
11																										
12																										

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
* Sb, As, Ba, Be, Cd, Cr	DJ Rene / PTS	3/18/15	1500							
Co, Cu, Fe, Pb, Ni, Se										
V, Zn, Hg										
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

3

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: DJ Rene
SIGNATURE of SAMPLER: DJ
DATE Signed (MM/DD/YY): 3/18/15

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

County Silver Bow

Facility & # 20

Closure
Finan Assur
GW Corr Meas
[✓ GW Monitoring]
GW Reports
Inspections
Other:

Landfarm
Liner
Methane
O & M
Run-on

PIONEER
TECHNICAL SERVICES, INC.

April 2, 2015

RST

RECEIVED

APR 07 2015

Dept. of Enviro. Quality
Waste & Underground
Tank Management Bureau

Mr. John Collins
Permitting and Compliance Division
Solid Waste Program
P.O. Box 200901
Helena, Montana 59620-0901

RE: Closed Butte-Silver Bow County Landfill – License #20
Request for Change in Sampling and Analytical Constituents

Dear John:

After reviewing the analytical results from the Semi-Annual Monitoring from 2001 to 2012 at the closed Butte-Silver Bow County Landfill – License #20, Butte-Silver Bow County would like to propose discontinuing the sampling and analyses of some constituents listed in Appendices I and II of 40 CFR Part 258 and as directed in ARM 17.50.1307.

Butte-Silver Bow County would like to discontinue sampling for organochlorine pesticides, chlorinated herbicides, and polychlorinated biphenyls (PCBs). Samples collected during the above timeframe have resulted in the detections listed in Table 3:

Table 3
Reported Concentrations of Chlorinated Herbicides and Pesticides from June 2001 to October 2012

Well Number	Sampling Event	Analyte	Concentration (µg/L)	Note
BSB-A6R	October 2012	Dicamba	0.093J	Not listed in Appendices I or II of CFR Part 258
BSB-A6R	October 2012	2,3,5-TP (Silvex)	0.11J	MCL is 50 µg/L
MBMG-2	March 2012	2,4-D	0.30J	MCL is 70 µg/L
BSB-A5	March 2012	2,4-D	0.23J	MCL is 70 µg/L
BSB-A6R	March 2012	2,3,5-TP (Silvex)	0.11J	MCL is 50 µg/L
BSB-A6R	September 2010	Dicamba	0.073J	Not listed in Appendices I or II of CFR Part 258
BSB-A6R	September 2010	2,3,5-TP (Silvex)	0.14J	MCL is 50 µg/L

BSB-A6R	October 2009	2,4-D	1.1	MCL is 70 µg/L
BSB-A6R	September 2001	Picloram	0.28J	Not listed in Appendices I or II of CFR Part 258
BSB-A5.	September 2004	Picloram	1.6	Not listed in Appendices I or II of CFR Part 258
BSB-A5	September 2001	Picloram	0.60	Not listed in Appendices I or II of CFR Part 258
BSB-A1	September 2004	Pentachlorophenol	0.13	MCL is 1 µg/L
MBMG-1	September 2001	Picloram	0.94	Not listed in Appendices I or II of CFR Part 258

J indicates an estimated quantity, the analyte is present but at concentrations less than the practical quantitation limit.

Five different compounds have been detected but only three, pentachlorophenol, silvex and 2,4-D are listed in Appendices I or II of CFR Part 258. All have been well below the maximum contaminant levels (MCLs). We would like to discontinue sampling and analyses in all wells for EPA methods EPA 8081 (organochlorine pesticides), EPA 8082 (polychlorinated biphenyls) and EPA 8151 (chlorinated herbicides).

I appreciate your review of this matter and if you have any questions or need additional information please give Mitch Mihailovich or me a call at 406-490-7678 or 406-497-8045.

Sincerely,

Brad Hollamon

Brad Hollamon
Senior Technician

cc: Dave Schultz, BSB Public Works
J.D. Emmert Pioneer
M. Mihailovich

PIONEER
TECHNICAL SERVICES, INC.

County Silver Bow
Facility & # 20
Closure
Finan Assur
GW Corr Meas
[✓ GW Monitoring]
GW Reports
Inspections
Other: ____________________
Landfarm
Liner
Methane
O & M
Run-on

December 11, 2013

Mr. John Collins
Montana DEQ/Solid Waste Program
P.O. Box 200901
Helena, Montana 59620-0901

RE: Old Butte-Silver Bow County Landfill/Clark Tailings

Dear Mr. Collins:

Enclosed please find results from the Old Butte-Silver Bow County Landfill/Clark Tailings October 2013 semi-annual groundwater monitoring event. The following have been included for your information:

- October 2013 sampling summary;
- Table 1 analytical data summary;
- Table oldlfctoct13 (non-parametric comparison of wells);
- Groundwater field parameters collected in the field;
- Copy of field notes;
- Trend graphs of detected compounds;
- Groundwater potentiometric surface map for October 2013; and
- Analytical data from Pace Laboratories in Minneapolis, Minnesota.

The calculated Confidence Level of 97.5% was found using the formula n/(n+k), where "n" is the total number of background samples collected and "k" is the number of future sampling events. (Section 4.2.1 Non-Parametric Prediction Intervals, Pages 61-63 and Table A-7, Appendix A; Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities; and Addendum to Interim Final Guidance, Office of Solid Waste Permits and State Programs Division, U.S. EPA, July 1992).

The groundwater velocity was calculated using Darcy's Law and the equation for the seepage velocity. The average groundwater velocity for October 2013 sampling event was 0.31 feet per day (ft/day). The hydraulic conductivity value used to obtain the groundwater velocity was obtained from the *Corrective Measures Assessment Report* (Pioneer Technical Services, April 2009) and from pumping data collected from the March 2009 sampling.

Sincerely,

Brad Hall

Brad Hollamon
Senior Technician

RECEIVED
DEC 13 2013
DEPT. OF ENVIRO. QUALITY
WASTE & UNDERGROUND TANK
MANAGEMENT BUREAU

Encl.
cc. Rick Larson, BSB Landfill Manager
JD Emmert, Pioneer Technical Services, Inc.

PIONEER
TECHNICAL SERVICES, INC.

December 11, 2013

Mr. John Collins
Montana DEQ/Solid Waste Program
P.O. Box 200901
Helena, Montana 59620-0901

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Sincerely,

Brad Hollamon

Brad Hollamon
Senior Technician

RECEIVED
DEC 1 3 2013
DEPT. OF ENVIRO. QUALITY
WASTE & UNDERGROUND TANK
MANAGEMENT BUREAU

Encl.
cc. Rick Larson, BSB Landfill Manager
JD Emmert, Pioneer Technical Services, Inc.

OLD SILVER BOW LANDFILL
OCTOBER 2013 GROUNDWATER MONITORING

The October 2013 sampling event at the Old Butte-Silver Bow Landfill included sampling in accordance with the modified assessment-monitoring program. Table 1, attached, summarizes the analytical results. The discussion below compares these data to previous results and to current Maximum Contaminant Levels (MCLs) and Montana Human Health Standards (HHSs).

Well MBMG-2 (up gradient):

In accordance with the modified assessment-monitoring program, semi-volatiles, chlorinated acids, and pesticides were not collected in the well during this sampling event. No volatile compounds were during this sampling event. Metals detected below the maximum background concentrations are; As (.0013 mg/L), Ba (0.160 mg/L), Cu (0.0015 mg/L), and V (0.0065 mg/l). There were no metals detected above the maximum background concentrations during this sampling event. Nitrate/nitrite (5.30 mg/L), Chloride (60 mg/l), and Sulfate (169 mg/L) were detected at concentrations below the maximum background. Cyanide was detected at (0.0153 mg/L) which is the new maximum background concentration for this well.
No MCL or HHS exceedences were observed in this well during this sampling event.

Well BSB-A1 (North):

In accordance with the modified assessment-monitoring program, semi-volatile, chlorinated acids, pesticides and a sample for metals analyses were not collected from this well.
There were no inorganic or volatile compounds detected at levels above maximum baseline or above maximum background in this well during this sampling event.
No MCL or HHS exceedences were observed in this well during this sampling event.

Well BSB-A5 (Northeast Well):

In accordance with the modified assessment-monitoring program, semi-volatile, chlorinated acids, pesticides and a sample for metals analyses were not collected from this well.
There were no volatile compounds detected at levels above maximum baseline or above maximum background in this well during this sampling event.
Sulfate detected at 419 mg/L exceeds maximum background concentration.
Sulfate also exceeds the secondary USEPA MCL of 250 mg/L.

Well BSB-A6-R (Central Well):

Well BSB-A6-R is the replacement well for BSB-A6, removed during the construction of Timber Butte Youth Park. Ten volatile organic compounds (VOC's) were detected in this well; five of the ten were detected at levels below the quantification limit. The ten volatile organic compounds were as follows:

- Benzene (0.54 J ug/L);
- 1,4 – Dichlorobenzene (1.50 ug/L); exceeds maximum background.
- Dichlorodifluoromethane (1.30 ug/L); exceeds maximum background.
- 1,1-Dichloroethane (1.50 ug/L); exceeds maximum background.
- Ethylbenzene (0.26 J ug/L);
- 1,2-Dichloropropane (0.61 J ug/L);
- Tetrachloroethene (0.38 J ug/L);
- Cis-1,2-DCE (2.70 ug/L); exceeds maximum background.
- Trichloroethene (0.30 J ug/L);
- Vinyl Chloride (1.6 ug/L); exceeds maximum background.

Vinyl Chloride exceeds the MDEQ-7 HHS standard of 0.2 ug/L.

In accordance with the modified assessment-monitoring program, semi-volatile, chlorinated acids, pesticides and a sample for metals analyses were not collected from this well.
Sulfate (1120 mg/L) exceeds maximum background concentrations. Sulfate exceeds the secondary USEPA MCL of 250 mg/L.
COD (280 mg/L) exceeds maximum background concentration.

Well CLK-1 (Clark Tailings East Well):

In accordance with the modified assessment-monitoring program, no samples for organic analyses were collected from this well. Metals detected above maximum background but below maximum baseline are; arsenic (0.150 mg/L); cadmium (0.014 mg/L); colbalt (0.050 J mg/L), iron (18.7 mg/L), nickel (0.043 mg/L) and zinc (57.3 mg/L). Arsenic, cadmium, iron and zinc exceed US EPA MCL or Montana HHS standards.
Sulfate was detected at a concentration of 1040 mg/L, which exceeds the maximum background and the secondary MCL for this compound.

Well CLK-2 (Clark Tailings North Well):

In accordance with the modified assessment-monitoring program, no samples for organic analyses were collected from this well. Metals detected above maximum background but below maximum baseline were nickel (0.042 mg/L) zinc (0.570 mg/L).
Sulfate was detected at a concentration of 743 mg/L, which exceeds the maximum background and the secondary MCL for this compound.

Conclusion:

The October 2013 sampling event at the Old Butte-Silver Bow Landfill included sampling according to the modified assessment-monitoring program (see Table 1 for analytical data). The results for metals, inorganics, and organic contaminants obtained from this sampling event were comparable to previous results.

SAMPLE NUMBER WELL ANALYTE (units):	BSB-GW-O1 MBMG-2	BSB-GW-C BSB-A1		BSB-GW-O9 Field Blank Trip Blank	GW PROTECTION STANDARDS USEPA MCL*	 MONTANA HHS
DISSOLVED METALS (mg/L)						
Antimony	(Pace 0.000092 J)< 0.0005	SA	10	< 0.0005	0.006	0.014
Arsenic	0.0013	SA	10	(Pace 0.000098 J)< 0.0005	0.05	0.01
Barium	0.16	SA	8	0.00062	2	2
Beryllium	< 0.00020	SA	04	< 0.0002	0.004	0.004
Cadmium	< 0.00008	SA	110	< 0.00008	0.005	0.005
Chromium	(Pace 0.00045 J)< 0.0005	SA	10	(Pace 0.00025 J)< 0.0005	0.1	0.1
Cobalt	(Pace 0.00013 J)< 0.0005	SA	10	< 0.0005	- - -	- - -
Copper	0.0015	SA	28	0.0024	1.3 (a)	1.3
Iron	< 0.05	SA	0	< 0.05	0.3(s)	0.3
Lead	(Pace 0.000061J)< 0.00010	SA	020	0.00018	0.015 (a)	0.015
Mercury	NR	SA		NR	0.002	0.002
Nickel	0.00059	SA	60	< 0.0005	0.1	0.1
Selenium	(Pace 0.00046 J)< 0.0005	SA	10	< 0.0005	0.05	0.05
Silver	NR	SA		NR	0.1	0.1
Thallium	NR	SA		NR	0.002	0.002
Tin	NR	SA		NR		
Vanadium	0.0065	SA	21	< 0.0001	- - -	- - -
Zinc	(Pace 0.0017 J)< 0.0050	SA	0	(Pace 0.0030 J)< 0.005	5	2
INORGANICS (mg/L)						
Chloride	60	18		< 2	250	- - -
COD	(Pace 24.40 J)< 50.0	< 50.		SA	- - -	- - -
Conductivity (umhos/cm)	877	490		2.4	- - -	- - -
Cyanide	15.3	< 10.		NR	- - -	0.2
Nitrate\Nitrite - N	5.3	0.28		NR	10	10
pH	7.4	7.0		6		
Sulfate	169	72.		< 2.5	250	- - -
Sulfide	NR	NR		NR		
EPA METHOD 8260 (ug/L)						
Acetone	< 20.0	< 20.		< 20.0	- - -	- - -
Benzene	< 1.0	< 1.0		< 1.0	5	5
Carbon Disulfide	< 1.0	< 1.0		< 1.0	- - -	- - -
Chloroethane	< 1.0	< 1.0		< 1.0	- - -	- - -
Chloroform	< 1.0	< 1.0		< 1.0	- - -	70
Chlormethane	< 4.0	< 4.0		< 4.0	- - -	- - -
1,4-Dichlorobenzene	< 1.0	< 1.0		< 1.0	75	75
Dichlorodiflouromethane	< 1.0	< 1.0		< 1.0	- - -	1000
1,1-Dichloroethane	< 1.0	< 1.0		< 1.0	- - -	- - -
1,2-Dichloroethane	< 1.0	< 1.0		< 1.0	5	4
cis-1,2-Dichloroethene	< 1.0	(Pace 0.35 J)< 1.0		< 1.0	70	70
trans-1,2-Dichloroethene	< 1.0	< 1.0		< 1.0	100	100
Ethylbenzene	< 1.0	< 1.0		< 1.0		
1,2-Dichloropropane	< 4.0	< 4.0		< 4.0	5	5
4-Isopropyltoluene	NR	NR		NR	- - -	- - -
Methylene Chloride	< 4.0	< 4.0		< 4.0	5	30
Naphthalene	NR	NR		NR	- - -	100
Tetrachloroethene	< 1.0	(Pace 0.42 J)< 1.0		< 1.0	5	5
Trichloroethene	< 0.4	< 0.4		< 0.4	5	5
1,2,4-Trimethylbenzene	NR	NR		NR	- - -	- - -
Vinyl Chloride	< 0.4	< 0.4		< 0.4	2	0.2
EPA METHOD 8270 (ug/L)						
bis(2-ethylhexyl)Phthalate	SA	SA		SA	6	6
EPA METHOD 8151 (ug/L)						
Picloram	SA	SA		SA		
Dicamba	SA	SA		SA		
2,4,5-TP (Silvex)	SA	SA		SA		
2,4-D	SA	SA		SA		
EPA METHOD 8081 (ug/L)	SA	SA		SA		
EPA METHOD 8082 (ug/L)	SA	SA		SA		

* MCL definitions: a = action level, not an MCL; s = secondary MCL (aesthetics)
NA = Not enough sample available for analysis
NR = Analysis Not Requested
ND = Analyte Not Detected
J = Estimated Quantity. Anlyte present, but less than the practical quantitation limit (PQL).
NS= Sample Not Collected (Dry Well-BSB-A5)
SA = Sample Not Taken

TABLE I: ANALYTICAL DATA FOR GROUNDWATER SAMPLES, OLD SILVER BOW COUNTY LANDFILL
DATE SAMPLED: October 01, 2013

SAMPLE NUMBER WELL ANALYTE (units):	BSB-GW-O1 MBMG-2	BSB-GW-O2 BSB-A1	BSB-GW-O3 BSB-A5	BSB-GW-O4 BSB-A6-R	BSB-GW-O5 CLK-1	BSB-GW-O6 CLK-2	BSB-GW-07 BSB-A6R DUPE	BSB-GW-08 CLK-2 DUPE	BSB-GW-O9 Field Blank Trip Blank	GW PROTECTION STANDARDS USEPA MCL*	 MONTANA HHS
DISSOLVED METALS (mg/L)											
Antimony	(Pace 0.000092 J)< 0.0005	SA	SA	SA	< 0.1000	< 0.0010	SA	< 0.0010	< 0.0005	0.006	0.014
Arsenic	0.0013	SA	SA	SA	0.150	0.0010	SA	(Pace 0.00098 J)< 0.0010	(Pace 0.000098 J)< 0.0005	0.05	0.01
Barium	0.16	SA	SA	SA	< 0.060	0.018	SA	0.018	0.00062	2	2
Beryllium	< 0.00020	SA	SA	SA	< 0.04000	< 0.0004	SA	< 0.0004	< 0.0002	0.004	0.004
Cadmium	< 0.00008	SA	SA	SA	(Pace 0.014 J)< 0.016	0.00110	SA	0.00110	< 0.00008	0.005	0.005
Chromium	(Pace 0.00045 J)< 0.0005	SA	SA	SA	< 0.1000	(Pace 0.00080 J)< 0.0010	SA	(Pace 0.00048 J)< 0.0010	(Pace 0.00025 J)< 0.0005	0.1	0.1
Cobalt	(Pace 0.00013 J)< 0.0005	SA	SA	SA	(Pace 0.050 J)< 0.1	(Pace 0.00041 J)< 0.0010	SA	(Pace 0.00036 J)< 0.0010	< 0.0005	- - -	- - -
Copper	0.0015	SA	SA	SA	< 0.1000	0.0027	SA	0.0028	0.0024	1.3 (a)	1.3
Iron	< 0.05	SA	SA	SA	18.7	< 0.100	SA	< 0.100	< 0.05	0.3(s)	0.3
Lead	(Pace 0.000061J)< 0.00010	SA	SA	SA	< 0.02000	< 0.00020	SA	(Pace 0.000096 J)< 0.00020	0.00018	0.015 (a)	0.015
Mercury	NR	SA	SA	SA	NR	NR	SA	NR	NR	0.002	0.002
Nickel	0.00059	SA	SA	SA	(Pace 0.043 J)< 0.1	0.0370	SA	0.0360	< 0.0005	0.1	0.1
Selenium	(Pace 0.00046 J)< 0.0005	SA	SA	SA	< 0.1000	< 0.0010	SA	< 0.0010	< 0.0005	0.05	0.05
Silver	NR	SA	SA	SA	NR	NR	SA	NR	NR	0.1	0.1
Thallium	NR	SA	SA	SA	NR	NR	SA	NR	NR	0.002	0.002
Tin	NR	SA	SA	SA	NR	NR	SA	NR	NR		
Vanadium	0.0065	SA	SA	SA	< 0.02	0.0021	SA	0.0021	< 0.0001	- - -	- - -
Zinc	(Pace 0.0017 J)< 0.0050	SA	SA	SA	57.3	0.570	SA	0.570	(Pace 0.0030 J)< 0.005	5	2
INORGANICS (mg/L)											
Chloride	60	18	26	66	31	66	SA	48	< 2	250	- - -
COD	(Pace 24.40 J)< 50.0	< 50.0	< 50.0	280	NR	NR	SA	NR	SA	- - -	- - -
Conductivity (umhos/cm)	877	490	997	2360	1860	1700	SA	1720	2.4	- - -	- - -
Cyanide	15.3	< 10.0	(Pace 9.40 J)< 10.0	14.8	NR	NR	SA	NR	NR	- - -	0.2
Nitrate\Nitrite - N	5.3	0.28	2.4	(Pace 0.34 J)< 0.10	NR	NR	SA	NR	NR	10	10
pH	7.4	7.0	5.8	6.1	6.1	6.4	SA	6.3	6		
Sulfate	169	72.6	419.0	1120.0	1040	743	SA	845	< 2.5	250	- - -
Sulfide	NR	NR	NR	NR	NR	NR	SA	NR	NR		
EPA METHOD 8260 (ug/L)											
Acetone	< 20.0	< 20.0	< 20.0	< 20.0	SA	SA	< 20.0	SA	< 20.0	- - -	- - -
Benzene	< 1.0	< 1.0	< 1.0	(Pace 0.54 J)< 1.0	SA	SA	(Pace 0.53 J)< 1.0	SA	< 1.0	5	5
Carbon Disulfide	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	- - -	- - -
Chloroethane	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	- - -	- - -
Chloroform	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	- - -	70
Chlormethane	< 4.0	< 4.0	< 4.0	< 4.0	SA	SA	< 4.0	SA	< 4.0	- - -	- - -
1,4-Dichlorobenzene	< 1.0	< 1.0	< 1.0	1.5	SA	SA	1.4	SA	< 1.0	75	75
Dichlorodiflouromethane	< 1.0	< 1.0	< 1.0	1.3	SA	SA	1.3	SA	< 1.0	- - -	1000
1,1-Dichloroethane	< 1.0	< 1.0	< 1.0	1.5	SA	SA	1.5	SA	< 1.0	- - -	- - -
1,2-Dichloroethane	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	5	4
cis-1,2-Dichloroethene	< 1.0	(Pace 0.35 J)< 1.0	1.0	2.7	SA	SA	2.6	SA	< 1.0	70	70
trans-1,2-Dichloroethene	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	100	100
Ethylbenzene	< 1.0	< 1.0	< 1.0	(Pace 0.26 J)< 1.0	SA	SA	(Pace 0.29 J)< 1.0	SA	< 1.0		
1,2-Dichloropropane	< 4.0	< 4.0	< 4.0	(Pace 0.61 J)< 4.0	SA	SA	(Pace 0.60 J)< 4.0	SA	< 4.0	5	5
4-Isopropyltoluene	NR	NR	NR	NR	SA	SA	NR	SA	NR	- - -	- - -
Methylene Chloride	< 4.0	< 4.0	< 4.0	< 4.0	SA	SA	< 4.0	SA	< 4.0	5	30
Naphthalene	NR	NR	NR	NR	SA	SA	NR	SA	NR	- - -	100
Tetrachloroethene	< 1.0	(Pace 0.42 J)< 1.0	(Pace 0..54 J)< 1.0	(Pace 0.38 J)< 1.0	SA	SA	(Pace 0.32 J)< 1.0	SA	< 1.0	5	5
Trichloroethene	< 0.4	< 0.4	(Pace 0.16 J)< 0.4	(Pace 0.30 J)< 0.4	SA	SA	(Pace 0.30 J)< 0.4	SA	< 0.4	5	5
1,2,4-Trimethylbenzene	NR	NR	NR	NR	SA	SA	NR	SA	NR	- - -	- - -
Vinyl Chloride	< 0.4	< 0.4	< 0.4	1.6	SA	SA	1.5	SA	< 0.4	2	0.2
EPA METHOD 8270 (ug/L)											
bis(2-ethylhexyl)Phthalate	SA	SA	SA	SA	SA	SA	SA	SA	SA	6	6
EPA METHOD 8151 (ug/L)											
Picloram	SA	SA	SA	SA	SA	SA	SA	SA	SA		
Dicamba	SA	SA	SA	SA	SA	SA	SA	SA	SA		
2,4,5-TP (Silvex)	SA	SA	SA	SA	SA	SA	SA	SA	SA		
2,4-D	SA	SA	SA	SA	SA	SA	SA	SA	SA		
EPA METHOD 8081 (ug/L)	SA	SA	SA	SA	SA	SA	SA	SA	SA		
EPA METHOD 8082 (ug/L)	SA	SA	SA	SA	SA	SA	SA	SA	SA		

* MCL definitions: a = action level, not an MCL; s = secondary MCL (aesthetics)
NA = Not enough sample available for analysis
NR = Analysis Not Requested
ND = Analyte Not Detected
J = Estimated Quantity. Anlyte present, but less than the practical quantitation limit (PQL).
NS= Sample Not Collected (Dry Well-BSB-A5)
SA = Sample Not Taken

Old Butte-Silver Bow County
Landfill/Clark Tailings

Received 12-13-13
WUTMB

December 11, 2013

PIONEER
TECHNICAL SERVICES, INC.

October 2013
Semi-Annual
Groundwater Monitoring Event

Old Butte-Silver Bow County Landfill
GROUNDWATER FIELD CHEMISTRY RESULTS AND PURGE VOLUMES
October-13

Well I.D.	Sample #	Depth (ft)	Radius (ft)	S.W.L. (ft)	TOC Elevation (ft)	Groundwater Elevation (ft)	pH. (su)	E.h. (mV)	S.C. (uS/cm)	T (Celsius)	Sample Time	H2O Volume Req'd (gal)	H2O Volume Purged (gal)	Comments
MBMG-2	BSB-GW-01	23.25	0.17	16.69	5529.88	5513.19	7.13	471.1	952	9.6	11:55	3.28	6.50	
BSB-A1	BSB-GW-02	57.00	0.17	39.13	5531.50	5492.37	7.13	434.4	508	10.1	13:10	8.94	11.00	
BSB-A5	BSB-GW-03	45.60	0.17	43.19	5524.62	5481.43	5.89	338.70	1197	9.9	16:05	1.21	2.20	
BSB-A6-R	BSB-GW-04	59.75	0.17	52.93	5554.41	5501.48	6.23	265.4	2796	10.6	15:30	3.41	4.50	
BSB-A6-R	BSB-GW-07	59.75	0.17	52.93	5554.41	5501.48	6.23	265.4	2796	10.6	15:30	3.41	4.50	VOC Duplicate
CLK-1	BSB-GW-05	19.00	0.17	5.50	5478.73	5473.23	6.40	276.0	2139	9.3	10:38	6.75	7.50	
CLK-2	BSB-GW-06	46.90	0.17	41.66	5511.17	5469.51	6.45	375.4	1888	9.8	11:48	2.62	4.00	
CLK-2	BSB-GW-08	46.90	0.17	41.66	5511.17	5469.51	6.45	375.4	1888	9.8	11:50	2.62	4	Raw, DM Duplicate
Blank	BSB-GW-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	13:00	NA	NA	Field Blank

KEY:

NA	Measurement Not Taken
SA	Sample Not Taken

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Old Landfill Groundwater Monitoring
WELL/STATION MGMB-2 DATE 10/1/13 TIME 1100
SAMPLERS DR, MW WEATHER CONDITIONS 41° Cloudy
PHOTO: Yes ______ No _____ ROLL# ______ NUMBER _________

PURGE DATA:

PURGE METHOD 120V GeoTech
START PURGING 1120
PURGE RATE 1000 ~~GPM~~ mL/minute
RATE CHANGE 1) Time ______ Rate _________
2) Time ______ Rate _________
SAMPLE TIME 1155

WELL DEPTH 23.20 Feet
DEPTH TO WATER 16.69 Feet
COLUMN DEPTH 6.51 Feet
CASING DIAMETER 2 Inch
PUMP SET AT 19.00 Feet
3 WELL VOLUMES 3.255 Gallons
TOTAL PURGE VOLUME 6.5 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-01-100113	250 ml	X	HNO_3	Dissolved Metals-
" " " "	500 mL ~~1 Liter~~		RAW	
" " " "	250 ml		H_2SO_4	
" " " "	250 ml		HNO_3	
	40 ml		HCL	

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1136	1.75 gal	9.7	7.43	959	479	6.10
1135	3.0 gal	9.7	7.26	957	476.9	6.01
1140	4.5 gal	9.8	7.17	957	473.1	5.91
1144	5.25 gal	9.7	7.18	955	472.3	5.83
1150	5.75 gal	9.7	7.15	952	471.4	5.79
1152	6.25 gal	9.7	7.16	952	471.5	5.76
MLW ~~1155~~	~~6.5~~					

FINAL FIELD PARAMETERS PRIOR TO SAMPLING

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1155	6.5 gal	9.6	7.13	952	471.1	5.75

FIELD REMARKS: ______________________________

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Old Landfill Groundwater Monitoring

WELL/STATION BSB-A1 DATE 10/11/13 TIME ~~1230~~ 1215 MCW

SAMPLERS DR, MW WEATHER CONDITIONS 49°F Cloudy

PHOTO: Yes ______ No ______ ROLL# ______ NUMBER ______

PURGE DATA:

PURGE METHOD 120 V Geotech

START PURGING MCW ~~1130~~ 1215

PURGE RATE 950 ~~GPM~~ mL/min

RATE CHANGE 1) Time ______ Rate ______

2) Time ______ Rate ______

SAMPLE TIME 1310

WELL DEPTH 52.53 Feet

DEPTH TO WATER 39.13 Feet

COLUMN DEPTH 13.4 Feet

CASING DIAMETER 2 Inch

PUMP SET AT 48 Feet

3 WELL VOLUMES 6.7 Gallons

TOTAL PURGE VOLUME 11.0 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-02-100113	~~250 ml~~		~~HNO~~$_3$	Di~~ssolved Metals~~-
" " "	500mL ~~1 Liter~~		RAW	
" " "	250 ml		NaOH	
" " "	250 ml		H2SO4	
" " "	40 ml		HCL	

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1242	2 gal	10.0	7.21	503	449.6	3.14
1248	4.5 gal	10.0	7.12	503	445.1	3.38
1252	5.5 gal	10.0	7.34	505	441.4	3.66
1254	6.0 gal	10.0	7.16	506	440.8	3.70
1258	7.0 gal	10.0	7.17	507	438.6	3.80
1300	7.5 gal	10.0	7.17	508	437.2	3.92
1302	8.0 gal	10.0	7.15	509	436.5	3.96
1304	8.5 gal	10.1	7.15	508	434.8	4.03
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1307	9.25 gal	10.1	7.13	508	434.4	4.07

FIELD REMARKS: ______

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Old Landfill Groundwater Monitoring
WELL/STATION BSB- AGR DATE 10/1/13 TIME 1320
SAMPLERS DR, MW WEATHER CONDITIONS overcast, wind 5-10 mph cool 40's
PHOTO: Yes ______ No X ROLL# — NUMBER —

PURGE DATA:

PURGE METHOD 120 volt Geotech sub.
START PURGING 1340
PURGE RATE 100 ~~GPM~~ mL/min
RATE CHANGE 1) Time ______ Rate ______
2) Time ______ Rate ______
SAMPLE TIME 1530

WELL DEPTH 59.75 Feet
DEPTH TO WATER 52.93 Feet
COLUMN DEPTH 6.82 Feet
CASING DIAMETER 2 Inch
PUMP SET AT — Feet
3 WELL VOLUMES 3.41 Gallons
TOTAL PURGE VOLUME 4.5 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
	250 ml		HNO_3	Dissolved Metals-
BSB-GW-04-100113	500mL 1 ~~Liter~~		RAW	
" " " "	250 ml		~~NaoH~~	NaoH
" " " "	250 ml		H_2SO_4	
" " " "	40 ml		HCL	

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1357	1.25 gal	10.2	6.37	2821	277.6	1.62
1400	1.35 gal	10.2	6.36	2820	277.9	1.61
1425	1.6 gal	10.1	6.61	2821	269.4	2.26
1430	1.75 gal	10.1	6.51	2837	268.5	2.36
1440	2.00 gal	10.3	6.43	2816	266.7	2.23
1500	3.00 gal	10.5	6.66	2806	265.4	2.60
1520	3.5 gal	10.6	6.39	2801	265.4	2.51
		~~10.6~~	~~6.23~~	~~2796~~		~~2.~~ MW

FINAL FIELD PARAMETERS PRIOR TO SAMPLING

1525	4 gal	10.6	6.23	2796	265.4	2.47

FIELD REMARKS: ______

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Old Landfill Groundwater Monitoring

WELL/STATION BSB - AS DATE 10/1/13 TIME 1601

SAMPLERS DR, MW WEATHER CONDITIONS 55°F Cloudy & Windy

PHOTO: Yes ______ No X ROLL# ______ NUMBER ________

PURGE DATA:

PURGE METHOD Bail

START PURGING 1345 → 1.75 gallons

PURGE RATE ________ GPM

RATE CHANGE 1) Time ______ Rate __________

2) Time ______ Rate __________

SAMPLE TIME 1605

WELL DEPTH 45.6 Feet

DEPTH TO WATER 43.19 Feet

COLUMN DEPTH 2.41 Feet

CASING DIAMETER 2 Inch

PUMP SET AT BAIL Feet

3 WELL VOLUMES 1.705 Gallons

TOTAL PURGE VOLUME 2.2 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
	250 ml		HNO_3	Dissolved Metals-
BSB-GW-03-100213	500ml ~~1 Liter~~		RAW	
" " " "	250 ml		H_2SO_4	
" " " "	250 ml		NaOH	
" " " "	40 ml		VOC	

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1603	2.4gal	9.9	5.89	1197	338.7	2.77
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						

FIELD REMARKS: ______________________________

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Old Landfill Groundwater Monitoring
WELL/STATION clk-1 DATE 10/2/13 TIME 1000
SAMPLERS DR, CP WEATHER CONDITIONS Sunny, cool
PHOTO: Yes ______ No X ROLL# X NUMBER X

PURGE DATA:

PURGE METHOD 12 volt SUB
START PURGING 1022
PURGE RATE 0.5 GPM
RATE CHANGE 1) Time ______ Rate ______
2) Time ______ Rate ______
SAMPLE TIME 1038

WELL DEPTH 19 Feet
DEPTH TO WATER 5.5 Feet
COLUMN DEPTH 13.5 Feet
CASING DIAMETER 2 Inch
PUMP SET AT 14 Feet
3 WELL VOLUMES 6.75 Gallons
TOTAL PURGE VOLUME 7.5 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSG-GW-05-100213	250 ml		HNO_3	Dissolved Metals-
	500ml ~~1 Liter~~		RAW	
	250 ml			
	250 ml			
	40 ml			

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1030	4	9.3	6.44	2094	328	0.23
1032	5	9.3	6.42	2110	300	0.07
1034	6	9.3	6.40	2123	286	0.05
1036	7	9.2	6.40	2133	280	0.05
1038	8	9.3	6.40	2139	276	0.05

FINAL FIELD PARAMETERS PRIOR TO SAMPLING

1038	8	9.3	6.40	2139	276	0.05

FIELD REMARKS: ______________________

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Old Landfill Groundwater Monitoring
WELL/STATION CIK-2 DATE 10/02/13 TIME 1105
SAMPLERS DR, CD WEATHER CONDITIONS
PHOTO: Yes ____ No X ROLL# X NUMBER X

PURGE DATA:

PURGE METHOD 12 volt SUB
START PURGING 1130
PURGE RATE 750-1000 ~~GPM~~ mL/min
RATE CHANGE 1) Time ____ Rate ____
2) Time ____ Rate ____
SAMPLE TIME 1148

WELL DEPTH 46.90 Feet
DEPTH TO WATER 41.66 Feet
COLUMN DEPTH 5.24 Feet
CASING DIAMETER 2 Inch
PUMP SET AT ____ Feet
3 WELL VOLUMES 2.62 Gallons
TOTAL PURGE VOLUME 4 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-06-100213	250 ml		HNO_3	Dissolved Metals-
	~~1 Liter~~ 500 mL		RAW	
	250 ml			
	250 ml			
08	40 ml			

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1138	2.0	9.5	6.50	1880	394.8	0.80
1140	2.7	9.6	6.46	1882	384.2	1.04
1142	3.0	9.7	6.45	1882	381.5	1.00
1144	3.25	9.8	6.45	1884	375.7	.95
1146	3.75	9.8	6.45	1884	377.1	.90
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1148	4.0	9.8	6.45	1886	375.4	0.94

FIELD REMARKS: ____

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Old Landfill Groundwater Monitoring

WELL/STATION BSB-08 DATE __________ TIME __________

SAMPLERS DL, CD WEATHER CONDITIONS __________

PHOTO: Yes ______ No ______ ROLL# ______ NUMBER ______

PURGE DATA:

PURGE METHOD 12 Volt

START PURGING __________

PURGE RATE ______ GPM

RATE CHANGE 1) Time ______ Rate ______

2) Time ______ Rate ______

SAMPLE TIME 1150

WELL DEPTH ______ Feet

DEPTH TO WATER ______ Feet

COLUMN DEPTH ______ Feet

CASING DIAMETER ______ Inch

PUMP SET AT ______ Feet

3 WELL VOLUMES ______ Gallons

TOTAL PURGE VOLUME ______ Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-08-100213	250 ml		HNO_3	Dissolved Metals-
	1 Liter			
	250 ml			
	250 ml			
Duplicate of CK 2	40 ml			

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
Duplicate of		BSB-	GW-	06 · 100213		
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1150	4.0	9.8	6.45	1888	375.4	0.94

FIELD REMARKS: __________

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Old Landfill Groundwater Monitoring

WELL/STATION BSB-09 DATE 10/8/13 TIME 1300

SAMPLERS DR, CD WEATHER CONDITIONS —

PHOTO: Yes — No — ROLL# — NUMBER —

PURGE DATA:

PURGE METHOD DI Blank

START PURGING ____

PURGE RATE ____ GPM

RATE CHANGE 1) Time ____ Rate ____

2) Time ____ Rate ____

SAMPLE TIME 1300

WELL DEPTH — Feet

DEPTH TO WATER — Feet

COLUMN DEPTH — Feet

CASING DIAMETER — Inch

PUMP SET AT — Feet

3 WELL VOLUMES — Gallons

TOTAL PURGE VOLUME — Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-09-100813	250 ml		HNO_3	Dissolved Metals-
DI Blank	1 Liter			
	250 ml			
	250 ml			
	40 ml			

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
	DI Blank					
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						

FIELD REMARKS: ____

Pioneer Technical Services

10/1/13 BSB old Landfill

ARRIVE at MGMB - 2 @ 11:00
↳ DTS Crew DJ Renz & Matt Williams

DTW = 16.69
TD = 23.20
case ø = 2"
water column: 6.51'
3 purge volumes = 3.255 gall

1120 start purging MGMB - 2 using 120 volt geo-tech pump. purge Rate 1000 mL/min

1130 Start collecting Field parameters
pH, SC, DO, ORP

1133 Water Ran clear from start of purging Low turbidity observed.

1155 Collect BSB - GW - 01 - 100113
1 500 mL HDPE RAW
1 250 mL HDPE NaOH
1 250 mL HDPE H_2SO_4
1 250 mL HDPE HNO_3 - Filtered

Cont →

10/1/13 BSB - GW - 01 cont

3 - 40 mL Glass VOC'S

1200 Stop purging MGMB - 2 pull pump Decon pump placed Dedicated TUBing Back In Bag - No Decon

Total Volume purged from Well
↳ 6.50 gallons

Final Field Parameters

Time	Temp	PH	SC	EH	DO
1155	9.7°C	7.13 DR	952	471.5	5.75

1215 ARRIVE @ BSB - IA

DTW = 39.13'
TD = 52.53'
case ø = 2"
water column = 13.4
3 purge volumes = 6.7 gallons

cont →

10/1/13 BSB-A1 cont

1230 Start purging BSB-A1 @ 950 mL-Min Using 120 volt Geo tech SUB-pump.

1242 Start collecting field parameters on BSB-A1.

1245 purge water showed low turbidity from start to end of purging

Initial DrawDown 39.45' @ 950 mL/min

1310
~~[illegible]~~ Collect BSB-GW-02-100113

1 500 mL HDPE Raw
1 250 mL HDPE NaOH
1 250 mL HDPE ~~[illegible]~~ H_2SO_4
3-40 mL Glass VOC

1317 Stop purging BSB-A1 Pull pump and Decon. Place Dedicated Tubing Back In Bag No Decon on Tube.

Cont

BSB-A1 cont.

Total volume purged from well = 11.0 gallons

Final Field parameters Prior to Sampling.

Time	PH	temp	SC	ORP	DO
1310	7.13	10.1	508	434.4	4.07

1320 ARRive @ BSB-AGR

DTW = 52.93
TD = 59.75
Colum Depth = 6.82
Case ø = 2"
3 well volumes = 3.41 gallons

1340 Begin purging BSB-AGR using 120 volt SUB pump 100 mL/min

1357 Start collecting field parameters

Cont →

10/1/13 BSB - AGR cont.

1530 collect BSB - GW - 04 - 100113

1 - 500 mL HDPE RAW
1 - 250 mL HDPE H_2SO_4
~~1 - 250 mL DI HDPE HNO_3~~
2 - 40 mL glass VOC
  ↳ 1 vile Broke During sampling
1 250 mL HDPE NaOH

Also A VOC Duplicate collected from BSB - AGR

1530 collect BSB - GW - 07 - 100113
3 - 40 mL glass VOC.

1545 Stop purging BSB - AGR
- All purge water collected in 7 gallon HDPE purge container and dumped at CAO treatment facility.

Final Field parameter prior to Sampling

Time	Temp	PH	SC	EH	DO
1525	10.6	6.23	2796	265.4	2.47

10/1/13 BSB - AGR cont.

- Geo tech pump Deconned at parrot 1700.

1601 Arrive at BSB - AS

1605 Collect BSB - GW - 03 - 100113

1 500 mL HDPE RAW
1 250 mL HDPE NaOH
1 250 mL HDPE H_2SO_4
3 30 mL glass VOC

Final Field parameters prior to sampling

Time	Temp	PH	SC	EH	DO
1603	9.9	5.89	1197	338.7	2.77

Total volume purged from well 2.2 gallon.

1630 PTS off site

cont →

10/1/13

All samples stored In sample fridge. at parrot.

8:30 calibrate meters at parrot.

Cond cal = 1413 @ 6.3 °C
↳ cal factor = 0.476

DO cal = 100.0 % Sat @ 16.4 °C
↳ Baro pressure = 609 mmHg

ORP cal = 436 RMV @ 3.0 °C

PH cal
4.00 = 4.00
7.00 = 7.00
10.01 = 10.04
Slope = 99.1

10/1/13

0945 Arrive at CLK-I

DTW = 5.50
TD : 19.0
column Depth = 13.5
3 well volumes = 6.75 gals
Total purged =

1022 Begin Purging CLK 1 @ 0.5 gpm

1030 Begin collecting Field parameters

1038 Collect BSB-GW-05-100213

1 250 mL HDPE HNO3 DM
1 500 mL HDPE RAW

1045 Stop purging CLK I Pull 12 Volt pump Decon pump All water contained In 7 gallon HDPE purge containers.

Cont →

1105 ARRIVE @ ClK # 2

DTW = 46.90
DT = 41.66
colum Haight = 5.24'
case ⌀ = 2"
3 well volumes 2.62 gallons

1110 12 volt pump not working pulled pump fixed Inside propeller and placed pump Back In well.

1130 starte purging well @ 1000 mL/min

1138 started collecting field parameters

1148 collected BSB-GW-06-100213
BSB-GW-08-100213

2 250 mL HDPE HNO3 DM
2 500 mL RAW HDPE

* BSB-GW-08 Duplicate of BSB-GW-06.

10/2/13

1155 pull 12volt pump Decon equipment All water contained In HDPE purge container.

1230 Dumped purge water @ LAO

1300 collected BSB-GW-09-100213

1 250 mL HDPE HNO3 DM
500 mL HDPE RAW

✓ DI Blank

1330 OFF site pack samples In Ice and cooler at parrot Ship samples to pace Via FedEx

Final Field Parameters
ClK-2

TIME	Temp	pH	SC	ORP	DO
1148	9.8	6.45	1888	375.4	0.94

cont →

Final Field Parameters

CIK 2 @ BSB-GW-08-Duplicate ofckk2

TIME	Temp	PH	SC	ORP	DO
1038	9.3	6.40	2139	276	0.05

0930 Calibrate meter at parrot

SC 1413 @ 16.0°C

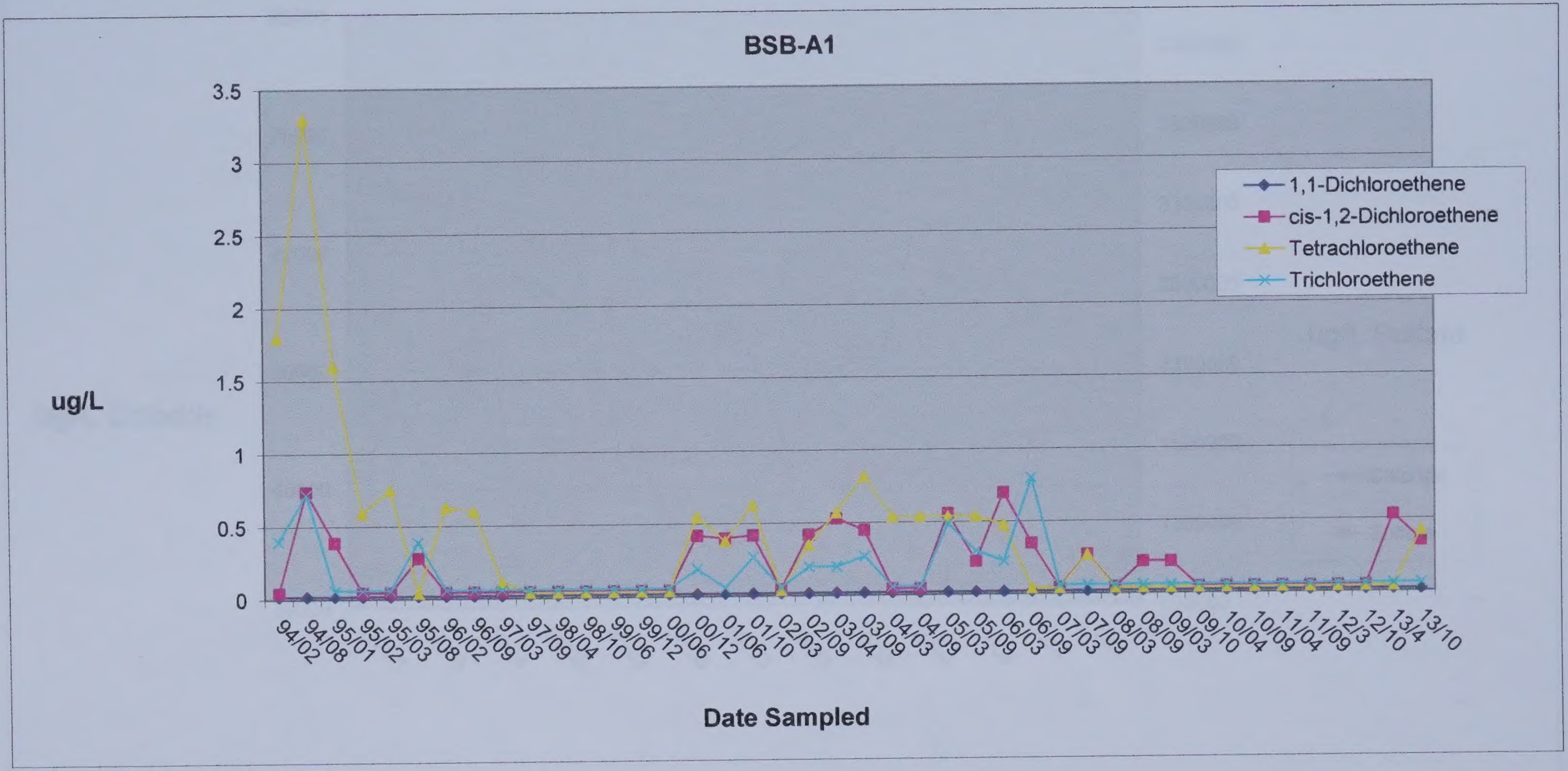
DO 100.% sat

PH After	Before
4.00 -	4.01
7.00 .	7.00
10.01 -	10.13

ORP 436 RMV @ 3.8°C

DJ Bm

10/2/13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ug/L
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3
2.5
2
1.5
1
0.5
0
1,1-Dichloroethene
cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene
94/02
94/08
95/01
95/02
95/03
95/08
96/02
96/09
97/03
97/09
98/04
98/10
99/06
99/12
00/06
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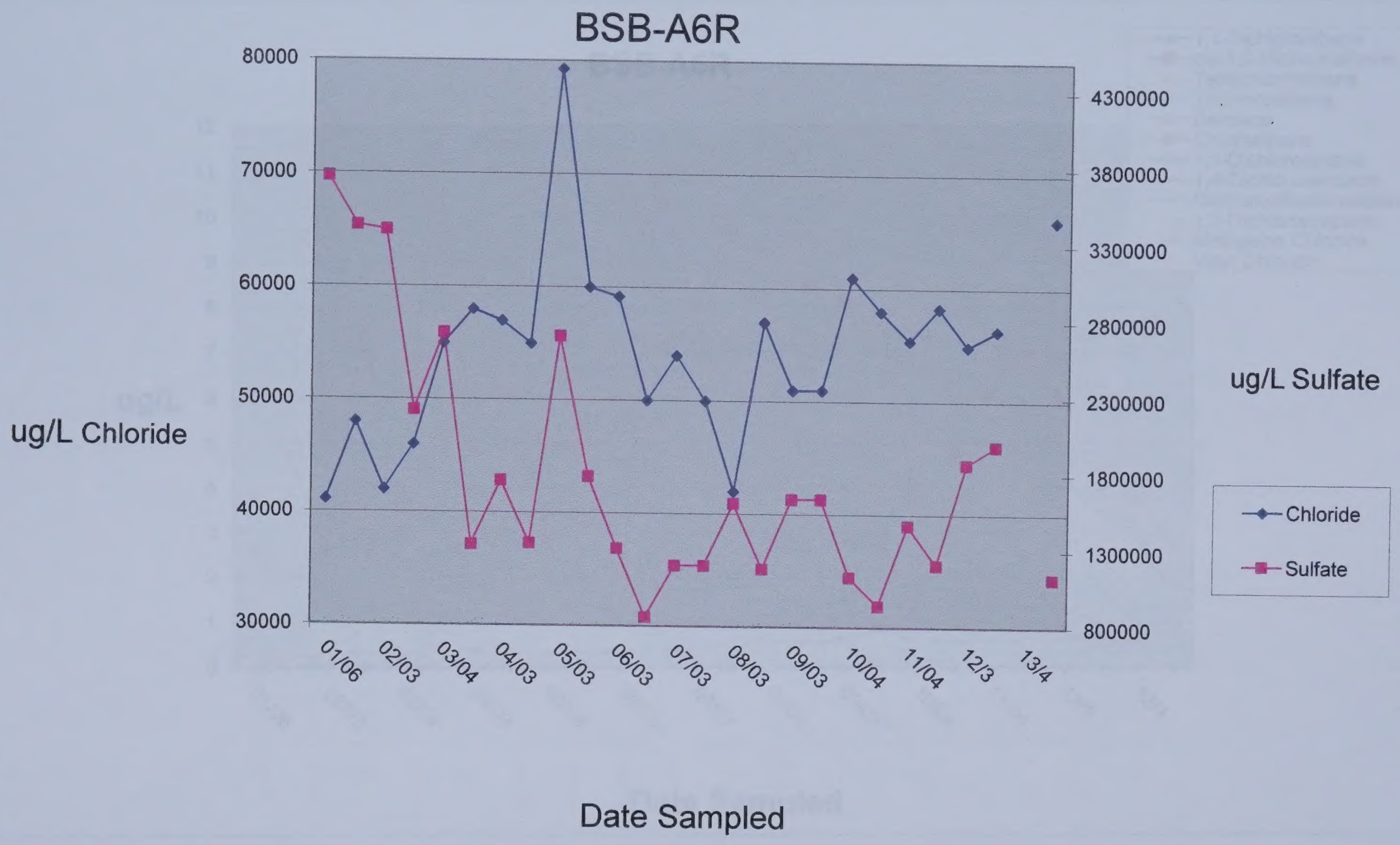
11/04
11/09
12/3
12/10
13/4
13/10
Date Sampled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ug/L Chloride
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70000
60000
50000
40000
30000
ug/L Sulfate
4300000
3800000
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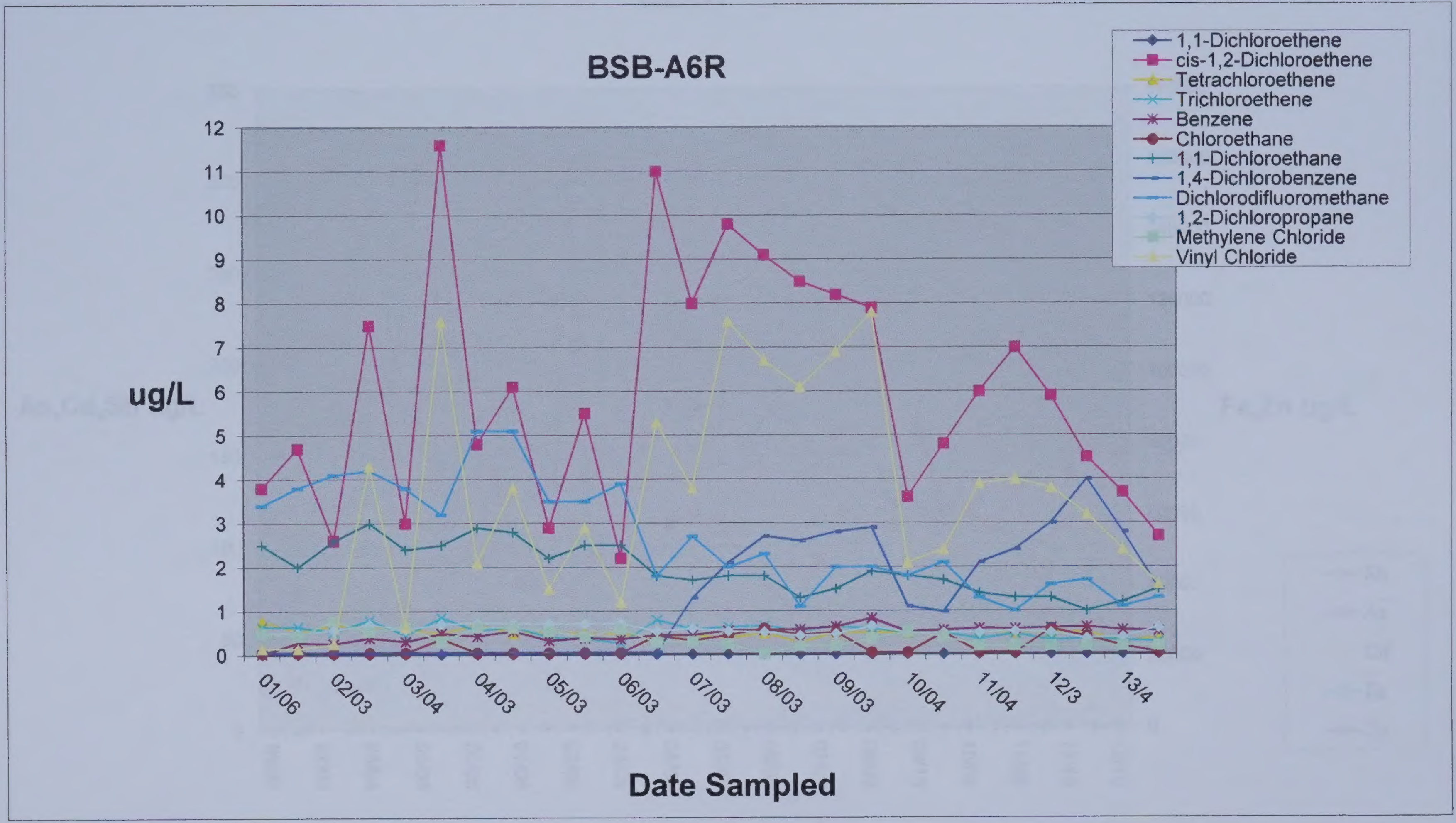
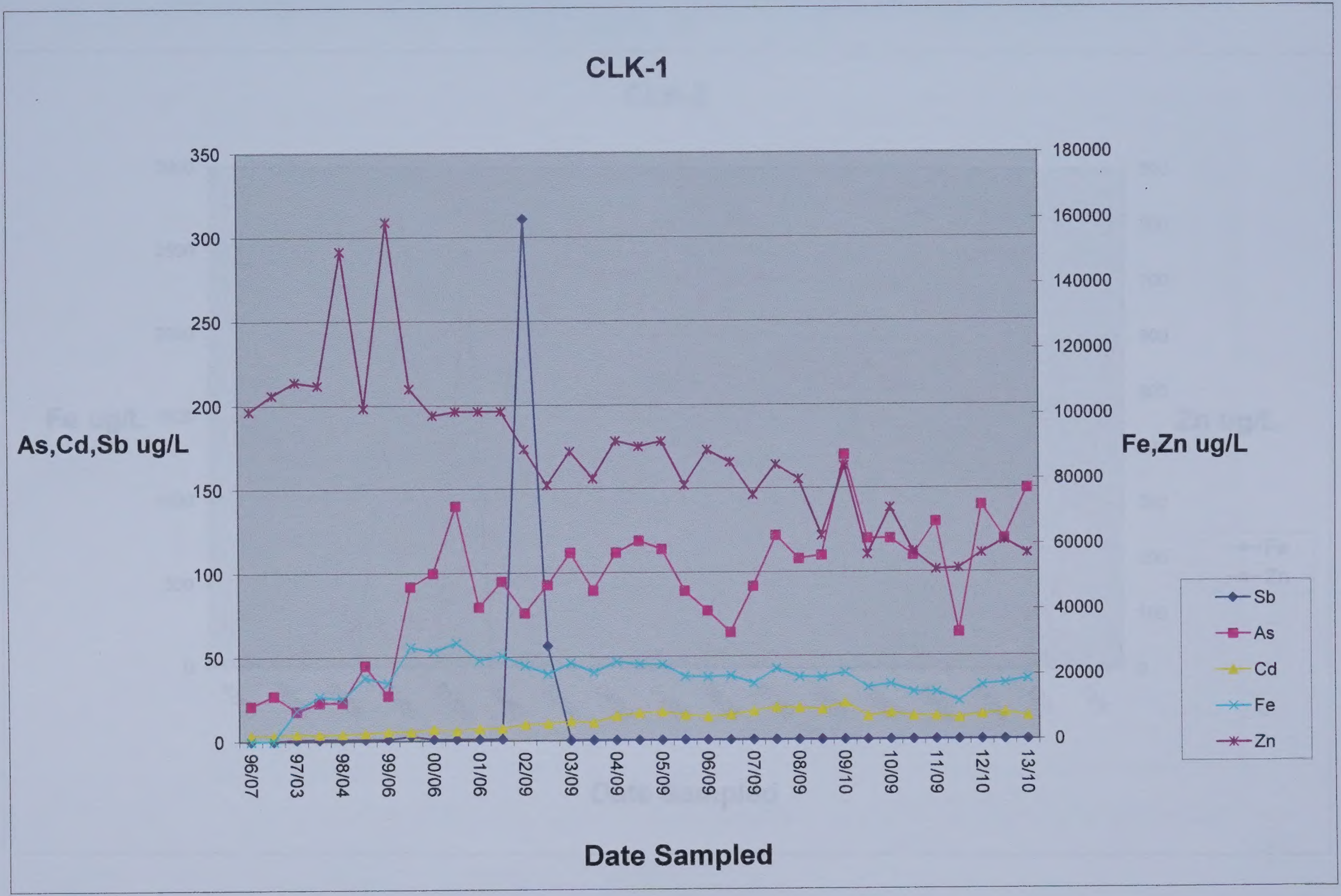
2300000
1800000
1300000
800000
01/06
02/03
03/04
04/03
05/03
06/03
07/03
08/03
09/03
10/04
11/04
12/3
13/4
Date Sampled
Chloride
Sulfate


BSB-A6R
ug/L
12
11
10
9
8
7
6
5
4
3
2
1
0
01/06
02/03
03/04
04/03
05/03
06/03
07/03
08/03
09/03
10/04
11/04
12/3
13/4
Date Sampled
1,1-Dichloroethene
cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene
Benzene
Chloroethane
1,1-Dichloroethane
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,2-Dichloropropane
Methylene Chloride
Vinyl Chloride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As,Cd,Sb ug/L
350
300
250
200
150
100
50
0
Fe,Zn ug/L
180000
160000
140000
120000
100000
80000
60000
40000
20000
0
96/07
97/03
98/04
99/06
00/06
01/06
02/09
03/09
04/09
05/09
06/09
07/09
08/09
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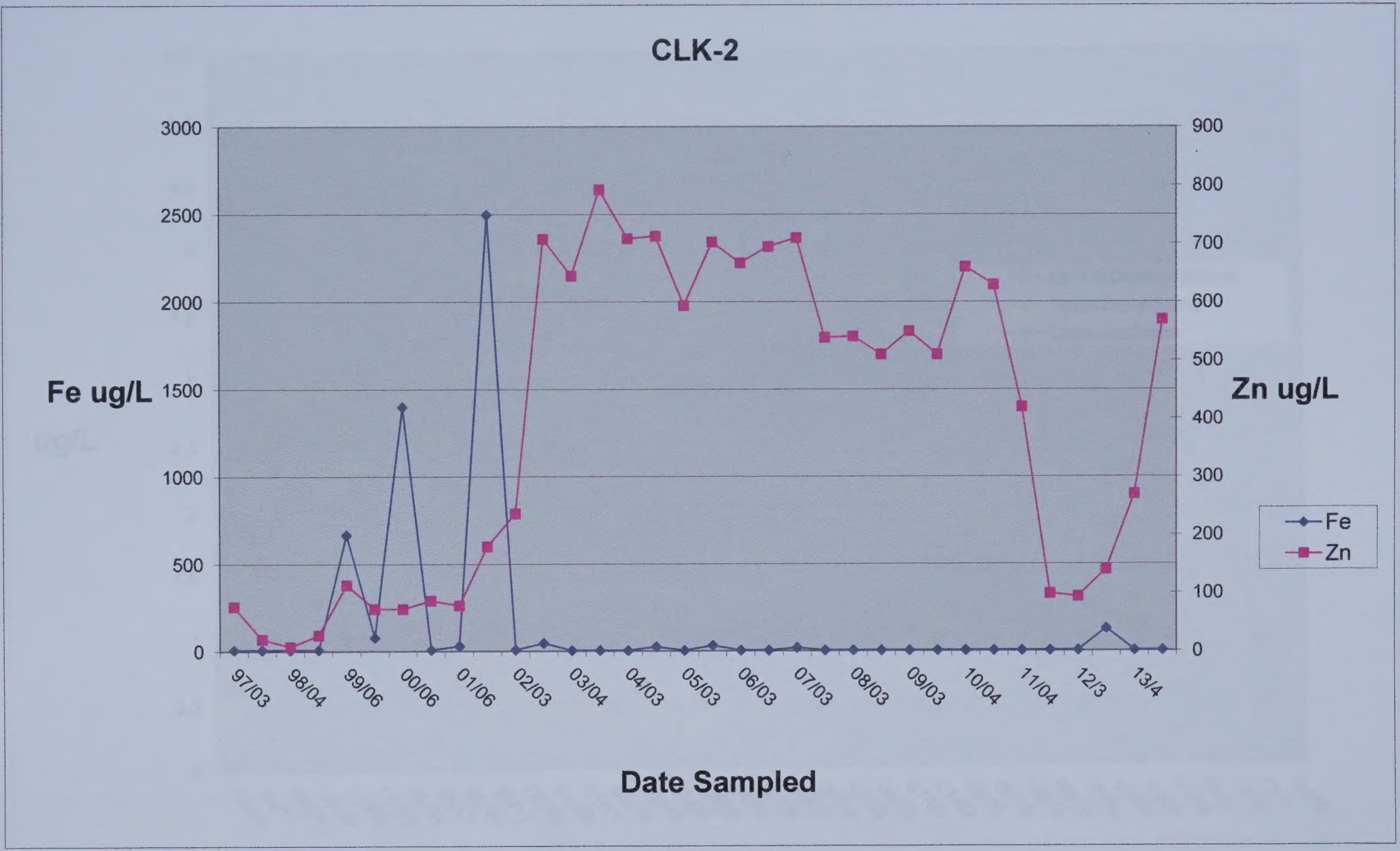
Date Sampled
Sb
As
Cd
Fe
Zn


CLK-2
Fe ug/L
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2500
2000
1500
1000
500
0
Zn ug/L
900
800
700
600
500
400
300
200
100
0
97/03
98/04
99/06
00/06
01/06
02/03
03/04
04/03
05/03
06/03
07/03
08/03
09/03
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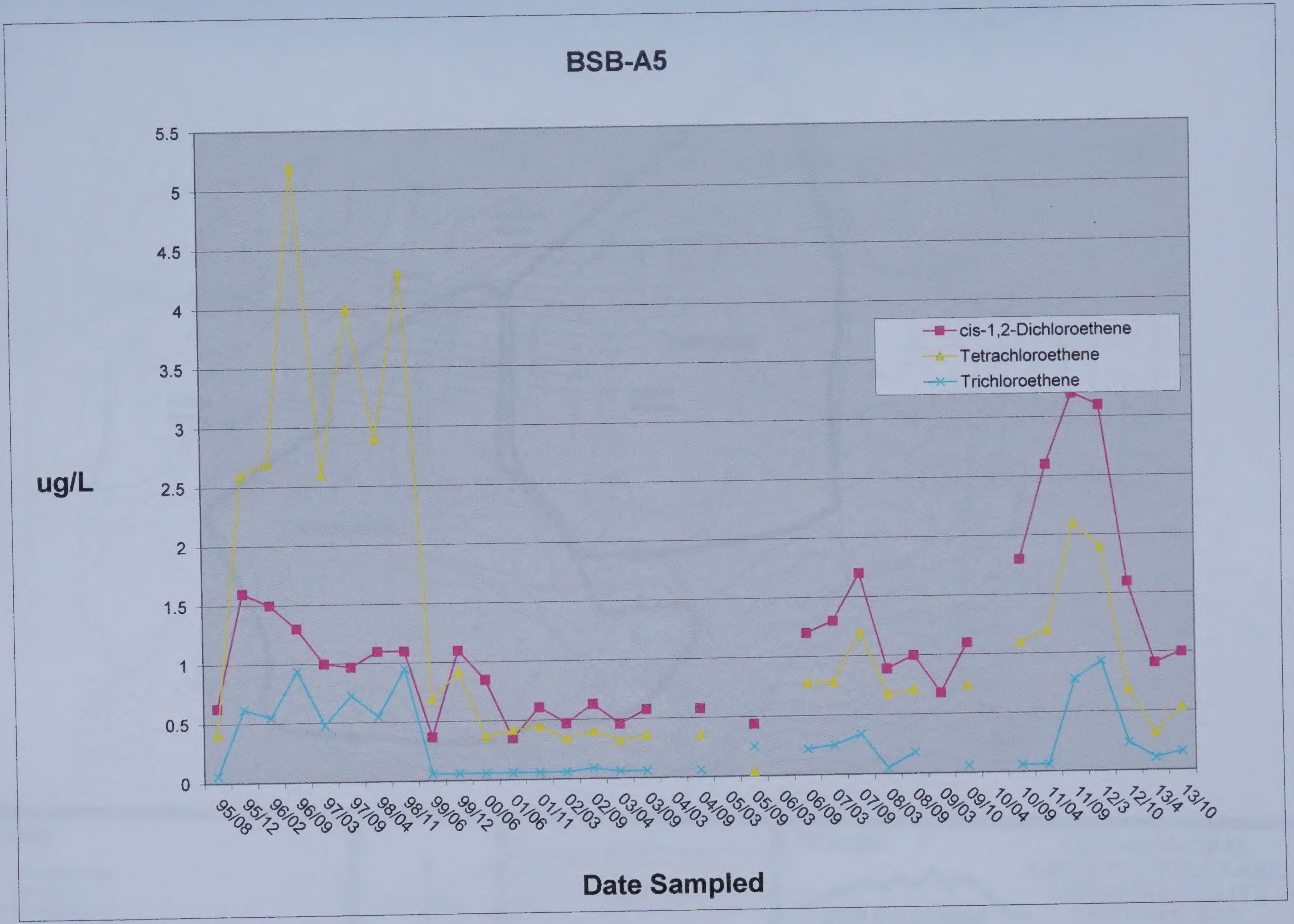
11/04
12/3
13/4
Date Sampled
Fe
Zn


BSB-A5
ug/L
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4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene
95/08
95/12
96/02
96/09
97/03
97/09
98/04
98/11
99/06
99/12
00/06
01/06
01/11
02/03
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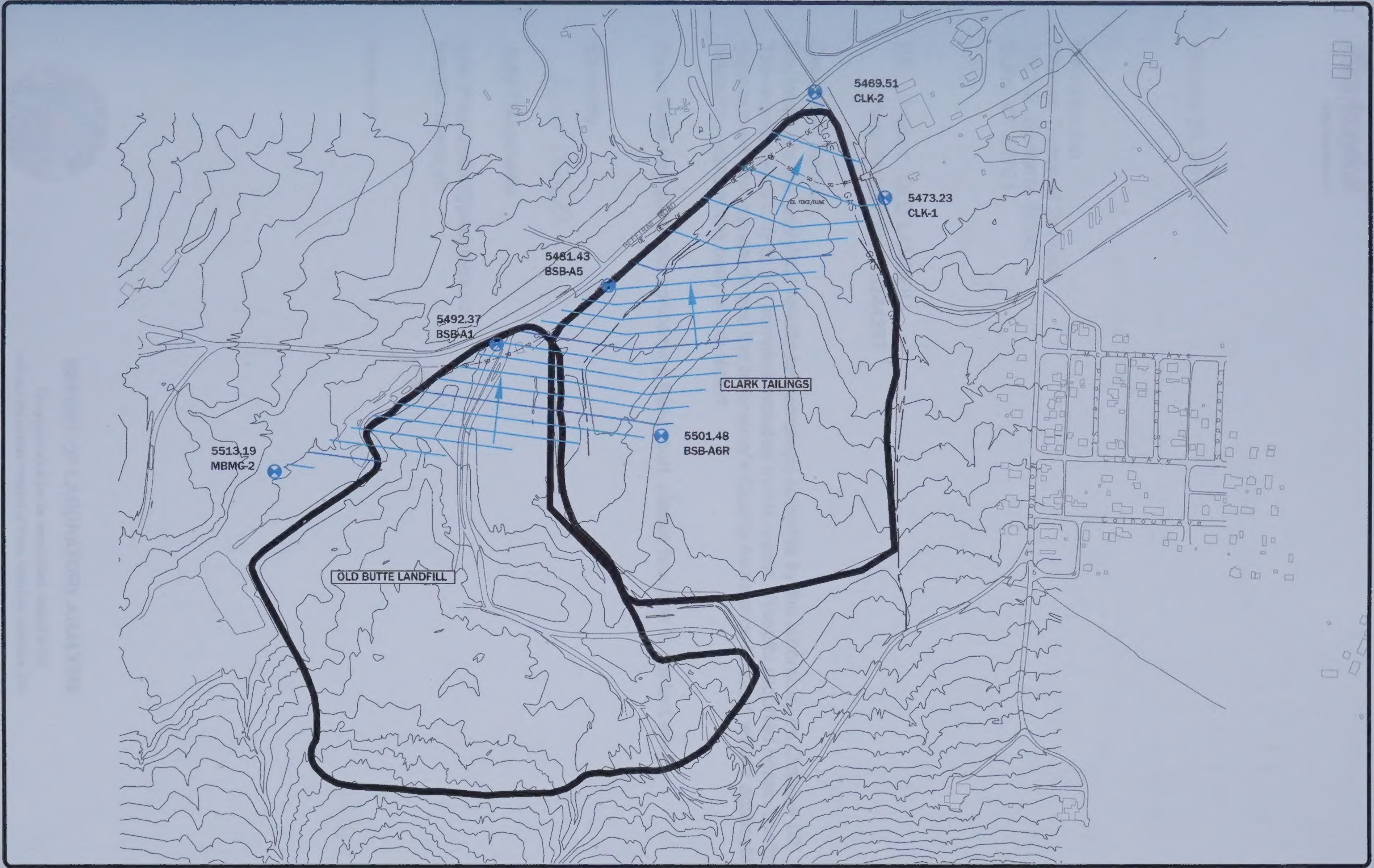
11/04
11/09
12/3
12/10
13/4
13/10
Date Sampled


5469.51
CLK-2
5473.23
CLK-1
5481.43
BSB-A5
5492.37
BSB-A1
5501.48
BSB-A6R
5513.19
MBMG-2
CLARK TAILINGS
OLD BUTTE LANDFILL
McKinley Ave
Clay Ave
Calhoun Ave

LEGEND

CLK-1 ● MONITORING WELL

—— CONTOUR

CONTOUR INTERVAL= 10'

DISPLAYED AS:

COORD SYS/ZONE: NA

DATUM: NA

UNITS: FEET

SOURCE: PIONEER

SCALE IN FEET

0 300 600

FIGURE 1

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

OLD MUNICIPAL LANDFILL SITE/CLARK TAILINGS FACILITY OCTOBER 2013

DATE: 12/5/13

12/5/2013 1:32:10 PM P:\BUTTE-SILVER BOW\BSB OLD LANDFILL\OLD LANDFILL\2013\OLDLNDFL-FG-PLN-002-13.DWG

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

October 24, 2013

Mike Borduin
Pioneer Technical Services
1101 S. Montana Street
Butte, MT 59701

RE: Project: OLD LANDFILL
Pace Project No.: 10244297

Dear Mike Borduin:

Enclosed are the analytical results for sample(s) received by the laboratory on October 03, 2013. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Julie Thieschafer

julie.thieschafer@pacelabs.com
Project Manager

Enclosures

CERTIFICATIONS

Project: OLD LANDFILL
Pace Project No.: 10244297

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: Pace
Florida/NELAP Certification #: E87605
Georgia Certification #: 959
Hawaii Certification #Pace
Idaho Certification #: MN00064
Illinois Certification #: 200011
Kansas Certification #: E-10167
Louisiana Certification #: 03086
Louisiana Certification #: LA080009
Maine Certification #: 2007029
Maryland Certification #: 322
Michigan DEQ Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT CERT0092
Nebraska Certification #: Pace
Nevada Certification #: MN_00064
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Dakota Certification #: R-036
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Tennessee Certification #: 02818
Texas Certification #: T104704192
Utah Certification #: MN00064
Virginia/DCLS Certification #: 002521
Virginia/VELAP Certification #: 460163
Washington Certification #: C754
West Virginia Certification #: 382
Wisconsin Certification #: 999407970

SAMPLE SUMMARY

Project: OLD LANDFILL
Pace Project No.: 10244297

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10244297001	**BSB-GW-01-100113**	Water	10/01/13 11:55	10/03/13 09:38
10244297002	**BSB-GW-02-100113**	Water	10/01/13 13:10	10/03/13 09:38
10244297003	**BSB-GW-03-100113**	Water	10/01/13 16:05	10/03/13 09:38
10244297004	**BSB-GW-04-100113**	Water	10/01/13 15:30	10/03/13 09:38
10244297005	**BSB-GW-07-100113**	Water	10/01/13 15:30	10/03/13 09:38
10244297006	**TRIP BLANK**	Water	10/01/13 00:00	10/03/13 09:38

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without the written consent of Pace Analytical Services, Inc..

SAMPLE ANALYTE COUNT

Project: OLD LANDFILL
Pace Project No.: 10244297

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10244297001	**BSB-GW-01-100113**	EPA 200.8	AJM	14	PASI-M
		EPA 8260	LPM	54	PASI-M
		EPA 120.1	JFP	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		EPA 353.2	KEO	1	PASI-M
		EPA 410.4	KEO	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10244297002	**BSB-GW-02-100113**	EPA 8260	LPM	54	PASI-M
		EPA 120.1	JFP	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		EPA 353.2	KEO	1	PASI-M
		EPA 410.4	KEO	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10244297003	**BSB-GW-03-100113**	EPA 8260	LPM	54	PASI-M
		EPA 120.1	JFP	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		EPA 353.2	KEO	1	PASI-M
		EPA 410.4	KEO	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10244297004	**BSB-GW-04-100113**	EPA 8260	LPM	54	PASI-M
		EPA 120.1	JFP	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		EPA 353.2	KEO	1	PASI-M
		EPA 410.4	KEO	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10244297005	**BSB-GW-07-100113**	EPA 8260	LPM	54	PASI-M
10244297006	**TRIP BLANK**	EPA 8260	LPM	54	PASI-M

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10244297

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Dissolved
Client: BPAR-PIONEER-MT
Date: October 24, 2013

General Information:
1 sample was analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: MPRP/42480

B: Analyte was detected in the associated method blank.
- BLANK for HBN 271999 [MPRP/424 (Lab ID: 1546184)
  - Copper, Dissolved

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project:	OLD LANDFILL
Pace Project No.:	10244297

Method: **EPA 8260**
Description: 8260 MSV
Client: BPAR-PIONEER-MT
Date: October 24, 2013

General Information:
6 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/25288

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10244159002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1552073)
  - 1,1,1,2-Tetrachloroethane
  - 1,1,2-Trichloroethane
  - 1,2-Dibromoethane (EDB)
  - 1,2-Dichloropropane
  - Acetone
  - Bromochloromethane
  - Bromodichloromethane
  - Bromomethane
  - Chlorobenzene
  - Chloroethane
  - Chloromethane
  - Dibromochloromethane
  - Dibromomethane

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PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10244297

Method: **EPA 8260**
Description: 8260 MSV
Client: BPAR-PIONEER-MT
Date: October 24, 2013

QC Batch: MSV/25288

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10244159002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- Dichlorodifluoromethane
- Styrene
- Trichloroethene
- Trichlorofluoromethane
- Vinyl chloride
- cis-1,2-Dichloroethene
- cis-1,3-Dichloropropene
- m&p-Xylene
- o-Xylene
- trans-1,3-Dichloropropene
- MSD (Lab ID: 1552074)
  - 1,2-Dichloroethane
  - 1,4-Dichlorobenzene
  - 2-Butanone (MEK)

R1: RPD value was outside control limits.

- MSD (Lab ID: 1552074)
  - 1,1,1,2-Tetrachloroethane
  - 1,1,1-Trichloroethane
  - 1,1,2,2-Tetrachloroethane
  - 1,1,2-Trichloroethane
  - 1,1-Dichloroethane
  - 1,1-Dichloroethene
  - 1,2,3-Trichloropropane
  - 1,2-Dibromo-3-chloropropane
  - 1,2-Dibromoethane (EDB)
  - 1,2-Dichlorobenzene
  - 1,2-Dichloroethane
  - 1,2-Dichloropropane
  - 1,3-Dichlorobenzene
  - 1,4-Dichlorobenzene
  - 2-Butanone (MEK)
  - 2-Hexanone
  - 4-Methyl-2-pentanone (MIBK)
  - Acetone
  - Acetonitrile
  - Benzene
  - Bromochloromethane
  - Bromodichloromethane
  - Bromoform
  - Bromomethane
  - Carbon disulfide
  - Carbon tetrachloride
  - Chlorobenzene

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10244297

Method: **EPA 8260**
Description: 8260 MSV
Client: BPAR-PIONEER-MT
Date: October 24, 2013

QC Batch: MSV/25288

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10244159002

R1: RPD value was outside control limits.

- Chloroethane
- Chloroform
- Chloromethane
- Dibromochloromethane
- Dibromomethane
- Dichlorodifluoromethane
- Ethylbenzene
- Iodomethane
- Methylene Chloride
- Styrene
- Tetrachloroethene
- Toluene
- Trichloroethene
- Trichlorofluoromethane
- Vinyl acetate
- Vinyl chloride
- cis-1,2-Dichloroethene
- cis-1,3-Dichloropropene
- m&p-Xylene
- o-Xylene
- trans-1,2-Dichloroethene
- trans-1,3-Dichloropropene
- trans-1,4-Dichloro-2-butene

QC Batch: MSV/25289

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10244516004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1552187)
  - Trichloroethene
- MSD (Lab ID: 1552188)
  - Trichloroethene

Additional Comments:

PROJECT NARRATIVE

Project:	OLD LANDFILL
Pace Project No.:	10244297

Method: **EPA 120.1**
Description: 120.1 Specific Conductance
Client: BPAR-PIONEER-MT
Date: October 24, 2013

General Information:
4 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10244297

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: BPAR-PIONEER-MT
Date: October 24, 2013

General Information:
4 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA recommended holding time.
- BSB-GW-01-100113 (Lab ID: 10244297001)
- BSB-GW-02-100113 (Lab ID: 10244297002)
- BSB-GW-03-100113 (Lab ID: 10244297003)
- BSB-GW-04-100113 (Lab ID: 10244297004)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project:	OLD LANDFILL
Pace Project No.:	10244297

Method: **EPA 353.2**
Description: 353.2 Nitrate + Nitrite pres.
Client: BPAR-PIONEER-MT
Date: October 24, 2013

General Information:
4 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10244297

Method: **EPA 410.4**
Description: 410.4 COD
Client: BPAR-PIONEER-MT
Date: October 24, 2013

General Information:
4 samples were analyzed for EPA 410.4. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10244297

Method: **ASTM D516**
Description: ASTM D516 Sulfate Water
Client: BPAR-PIONEER-MT
Date: October 24, 2013

General Information:
4 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project:	OLD LANDFILL
Pace Project No.:	10244297

Method: **SM 4500-Cl E**
Description: SM4500Cl-E Chloride
Client: BPAR-PIONEER-MT
Date: October 24, 2013

General Information:
4 samples were analyzed for SM 4500-Cl E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project:	OLD LANDFILL
Pace Project No.:	10244297

Method: **SM 4500-CN-E**
Description: SM4500CN-E Cyanide
Client: BPAR-PIONEER-MT
Date: October 24, 2013

General Information:
4 samples were analyzed for SM 4500-CN-E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

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ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: BSB-GW-01-100113 **Lab ID: 10244297001** Collected: 10/01/13 11:55 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	**0.000092J**	mg/L	0.00050	0.000056	1	10/14/13 10:24	10/23/13 11:33	7440-36-0	
Arsenic, Dissolved	**0.0013**	mg/L	0.00050	0.000093	1	10/14/13 10:24	10/23/13 11:33	7440-38-2	
Barium, Dissolved	**0.16**	mg/L	0.00030	0.00014	1	10/14/13 10:24	10/23/13 11:33	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000053	1	10/14/13 10:24	10/23/13 11:33	7440-41-7	
Cadmium, Dissolved	ND	mg/L	0.000080	0.000032	1	10/14/13 10:24	10/23/13 11:33	7440-43-9	
Chromium, Dissolved	**0.00045J**	mg/L	0.00050	0.000081	1	10/14/13 10:24	10/23/13 11:33	7440-47-3	
Cobalt, Dissolved	**0.00013J**	mg/L	0.00050	0.000052	1	10/14/13 10:24	10/23/13 11:33	7440-48-4	
Copper, Dissolved	**0.0015**	mg/L	0.00050	0.00017	1	10/14/13 10:24	10/23/13 11:33	7440-50-8	B
Iron, Dissolved	ND	mg/L	0.050	0.0059	1	10/14/13 10:24	10/23/13 11:33	7439-89-6	
Lead, Dissolved	**0.000061J**	mg/L	0.00010	0.000046	1	10/14/13 10:24	10/23/13 11:33	7439-92-1	
Nickel, Dissolved	**0.00059**	mg/L	0.00050	0.00015	1	10/14/13 10:24	10/23/13 11:33	7440-02-0	
Selenium, Dissolved	**0.00046J**	mg/L	0.00050	0.00012	1	10/14/13 10:24	10/23/13 11:33	7782-49-2	
Vanadium, Dissolved	**0.0065**	mg/L	0.00010	0.000046	1	10/14/13 10:24	10/23/13 11:33	7440-62-2	
Zinc, Dissolved	**0.0017J**	mg/L	0.0050	0.00098	1	10/14/13 10:24	10/23/13 11:33	7440-66-6	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	10.0	1		10/15/13 10:23	67-64-1	
Acetonitrile	ND	ug/L	100	6.4	1		10/15/13 10:23	75-05-8	
Benzene	ND	ug/L	1.0	0.24	1		10/15/13 10:23	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.50	1		10/15/13 10:23	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.25	1		10/15/13 10:23	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		10/15/13 10:23	75-25-2	
Bromomethane	ND	ug/L	4.0	2.0	1		10/15/13 10:23	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		10/15/13 10:23	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.22	1		10/15/13 10:23	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.31	1		10/15/13 10:23	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.24	1		10/15/13 10:23	108-90-7	
Chloroethane	ND	ug/L	1.0	0.50	1		10/15/13 10:23	75-00-3	
Chloroform	ND	ug/L	1.0	0.27	1		10/15/13 10:23	67-66-3	
Chloromethane	ND	ug/L	4.0	2.0	1		10/15/13 10:23	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2.0	1		10/15/13 10:23	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.27	1		10/15/13 10:23	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.23	1		10/15/13 10:23	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.14	1		10/15/13 10:23	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.092	1		10/15/13 10:23	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.50	1		10/15/13 10:23	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.50	1		10/15/13 10:23	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	5.0	1		10/15/13 10:23	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.40	1		10/15/13 10:23	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.50	1		10/15/13 10:23	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.22	1		10/15/13 10:23	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.24	1		10/15/13 10:23	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.23	1		10/15/13 10:23	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.24	1		10/15/13 10:23	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.20	1		10/15/13 10:23	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.50	1		10/15/13 10:23	10061-01-5	

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ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: BSB-GW-01-100113 **Lab ID: 10244297001** Collected: 10/01/13 11:55 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	ug/L	4.0	2.0	1		10/15/13 10:23	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.24	1		10/15/13 10:23	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.5	1		10/15/13 10:23	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		10/15/13 10:23	74-88-4	
Methylene Chloride	ND	ug/L	4.0	2.0	1		10/15/13 10:23	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.5	1		10/15/13 10:23	108-10-1	
Styrene	ND	ug/L	1.0	0.24	1		10/15/13 10:23	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		10/15/13 10:23	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.13	1		10/15/13 10:23	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.29	1		10/15/13 10:23	127-18-4	
Toluene	ND	ug/L	1.0	0.23	1		10/15/13 10:23	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.50	1		10/15/13 10:23	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.16	1		10/15/13 10:23	79-00-5	
Trichloroethene	ND	ug/L	0.40	0.12	1		10/15/13 10:23	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.13	1		10/15/13 10:23	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.54	1		10/15/13 10:23	96-18-4	
Vinyl acetate	ND	ug/L	10.0	5.0	1		10/15/13 10:23	108-05-4	
Vinyl chloride	ND	ug/L	0.40	0.14	1		10/15/13 10:23	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.72	1		10/15/13 10:23	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.48	1		10/15/13 10:23	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.24	1		10/15/13 10:23	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	80	%	75-125		1		10/15/13 10:23	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		10/15/13 10:23	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		10/15/13 10:23	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**877**	umhos/cm	1.0	0.50	1		10/10/13 13:19		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.4**	Std. Units	0.10	0.050	1		10/14/13 12:47		H6
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**5.3**	mg/L	0.20	0.040	2		10/11/13 14:11		
410.4 COD	Analytical Method: EPA 410.4								
Chemical Oxygen Demand	**26.4J**	mg/L	50.0	25.0	1		10/11/13 16:28		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**169**	mg/L	25.0	12.5	10		10/11/13 15:00	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**60.2**	mg/L	4.0	2.0	2		10/08/13 11:58	16887-00-6	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: BSB-GW-01-100113 **Lab ID: 10244297001** Collected: 10/01/13 11:55 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E								
Cyanide	**15.3**	ug/L	10.0	5.0	1		10/15/13 12:07	57-12-5	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: BSB-GW-02-100113 **Lab ID: 10244297002** Collected: 10/01/13 13:10 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	10.0	1		10/15/13 10:47	67-64-1	
Acetonitrile	ND	ug/L	100	6.4	1		10/15/13 10:47	75-05-8	
Benzene	ND	ug/L	1.0	0.24	1		10/15/13 10:47	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.50	1		10/15/13 10:47	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.25	1		10/15/13 10:47	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		10/15/13 10:47	75-25-2	
Bromomethane	ND	ug/L	4.0	2.0	1		10/15/13 10:47	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		10/15/13 10:47	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.22	1		10/15/13 10:47	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.31	1		10/15/13 10:47	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.24	1		10/15/13 10:47	108-90-7	
Chloroethane	ND	ug/L	1.0	0.50	1		10/15/13 10:47	75-00-3	
Chloroform	ND	ug/L	1.0	0.27	1		10/15/13 10:47	67-66-3	
Chloromethane	ND	ug/L	4.0	2.0	1		10/15/13 10:47	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2.0	1		10/15/13 10:47	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.27	1		10/15/13 10:47	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.23	1		10/15/13 10:47	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.14	1		10/15/13 10:47	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.092	1		10/15/13 10:47	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.50	1		10/15/13 10:47	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.50	1		10/15/13 10:47	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	5.0	1		10/15/13 10:47	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.40	1		10/15/13 10:47	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.50	1		10/15/13 10:47	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.22	1		10/15/13 10:47	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.24	1		10/15/13 10:47	75-35-4	
cis-1,2-Dichloroethene	**0.35J**	ug/L	1.0	0.23	1		10/15/13 10:47	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.24	1		10/15/13 10:47	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.20	1		10/15/13 10:47	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.50	1		10/15/13 10:47	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	2.0	1		10/15/13 10:47	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.24	1		10/15/13 10:47	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.5	1		10/15/13 10:47	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		10/15/13 10:47	74-88-4	
Methylene Chloride	ND	ug/L	4.0	2.0	1		10/15/13 10:47	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.5	1		10/15/13 10:47	108-10-1	
Styrene	ND	ug/L	1.0	0.24	1		10/15/13 10:47	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		10/15/13 10:47	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.13	1		10/15/13 10:47	79-34-5	
Tetrachloroethene	**0.42J**	ug/L	1.0	0.29	1		10/15/13 10:47	127-18-4	
Toluene	ND	ug/L	1.0	0.23	1		10/15/13 10:47	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.50	1		10/15/13 10:47	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.16	1		10/15/13 10:47	79-00-5	
Trichloroethene	ND	ug/L	0.40	0.12	1		10/15/13 10:47	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.13	1		10/15/13 10:47	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.54	1		10/15/13 10:47	96-18-4	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: BSB-GW-02-100113 **Lab ID: 10244297002** Collected: 10/01/13 13:10 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl acetate	ND	ug/L	10.0	5.0	1		10/15/13 10:47	108-05-4	
Vinyl chloride	ND	ug/L	0.40	0.14	1		10/15/13 10:47	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.72	1		10/15/13 10:47	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.48	1		10/15/13 10:47	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.24	1		10/15/13 10:47	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	81	%	75-125		1		10/15/13 10:47	17060-07-0	
Toluene-d8 (S)	103	%	75-125		1		10/15/13 10:47	2037-26-5	
4-Bromofluorobenzene (S)	98	%	75-125		1		10/15/13 10:47	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**490**	umhos/cm	1.0	0.50	1		10/10/13 13:20		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.0**	Std. Units	0.10	0.050	1		10/14/13 12:49		H6
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.28**	mg/L	0.10	0.020	1		10/11/13 13:51		
410.4 COD	Analytical Method: EPA 410.4								
Chemical Oxygen Demand	ND	mg/L	50.0	25.0	1		10/11/13 16:31		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**72.6**	mg/L	12.5	6.2	5		10/11/13 15:03	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**18.4**	mg/L	2.0	1.0	1		10/08/13 11:46	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E								
Cyanide	ND	ug/L	10.0	5.0	1		10/15/13 10:16	57-12-5	

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ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: BSB-GW-03-100113 **Lab ID: 10244297003** Collected: 10/01/13 16:05 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	10.0	1		10/15/13 11:11	67-64-1	
Acetonitrile	ND	ug/L	100	6.4	1		10/15/13 11:11	75-05-8	
Benzene	ND	ug/L	1.0	0.24	1		10/15/13 11:11	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.50	1		10/15/13 11:11	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.25	1		10/15/13 11:11	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		10/15/13 11:11	75-25-2	
Bromomethane	ND	ug/L	4.0	2.0	1		10/15/13 11:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		10/15/13 11:11	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.22	1		10/15/13 11:11	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.31	1		10/15/13 11:11	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.24	1		10/15/13 11:11	108-90-7	
Chloroethane	ND	ug/L	1.0	0.50	1		10/15/13 11:11	75-00-3	
Chloroform	ND	ug/L	1.0	0.27	1		10/15/13 11:11	67-66-3	
Chloromethane	ND	ug/L	4.0	2.0	1		10/15/13 11:11	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2.0	1		10/15/13 11:11	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.27	1		10/15/13 11:11	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.23	1		10/15/13 11:11	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.14	1		10/15/13 11:11	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.092	1		10/15/13 11:11	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.50	1		10/15/13 11:11	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.50	1		10/15/13 11:11	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	5.0	1		10/15/13 11:11	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.40	1		10/15/13 11:11	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.50	1		10/15/13 11:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.22	1		10/15/13 11:11	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.24	1		10/15/13 11:11	75-35-4	
cis-1,2-Dichloroethene	**1.0**	ug/L	1.0	0.23	1		10/15/13 11:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.24	1		10/15/13 11:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.20	1		10/15/13 11:11	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.50	1		10/15/13 11:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	2.0	1		10/15/13 11:11	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.24	1		10/15/13 11:11	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.5	1		10/15/13 11:11	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		10/15/13 11:11	74-88-4	
Methylene Chloride	ND	ug/L	4.0	2.0	1		10/15/13 11:11	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.5	1		10/15/13 11:11	108-10-1	
Styrene	ND	ug/L	1.0	0.24	1		10/15/13 11:11	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		10/15/13 11:11	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.13	1		10/15/13 11:11	79-34-5	
Tetrachloroethene	**0.54J**	ug/L	1.0	0.29	1		10/15/13 11:11	127-18-4	
Toluene	ND	ug/L	1.0	0.23	1		10/15/13 11:11	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.50	1		10/15/13 11:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.16	1		10/15/13 11:11	79-00-5	
Trichloroethene	**0.16J**	ug/L	0.40	0.12	1		10/15/13 11:11	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.13	1		10/15/13 11:11	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.54	1		10/15/13 11:11	96-18-4	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: BSB-GW-03-100113 **Lab ID: 10244297003** Collected: 10/01/13 16:05 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl acetate	ND	ug/L	10.0	5.0	1		10/15/13 11:11	108-05-4	
Vinyl chloride	ND	ug/L	0.40	0.14	1		10/15/13 11:11	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.72	1		10/15/13 11:11	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.48	1		10/15/13 11:11	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.24	1		10/15/13 11:11	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	80	%	75-125		1		10/15/13 11:11	17060-07-0	
Toluene-d8 (S)	104	%	75-125		1		10/15/13 11:11	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		10/15/13 11:11	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**997**	umhos/cm	1.0	0.50	1		10/10/13 13:22		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**5.8**	Std. Units	0.10	0.050	1		10/14/13 12:50		H6
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**2.4**	mg/L	0.10	0.020	1		10/11/13 13:55		
410.4 COD	Analytical Method: EPA 410.4								
Chemical Oxygen Demand	ND	mg/L	50.0	25.0	1		10/11/13 16:32		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**419**	mg/L	125	62.5	50		10/11/13 15:03	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**26.3**	mg/L	2.0	1.0	1		10/08/13 11:46	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E								
Cyanide	**9.4J**	ug/L	10.0	5.0	1		10/15/13 12:08	57-12-5	

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ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: BSB-GW-04-100113 **Lab ID: 10244297004** Collected: 10/01/13 15:30 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	10.0	1		10/15/13 11:35	67-64-1	
Acetonitrile	ND	ug/L	100	6.4	1		10/15/13 11:35	75-05-8	
Benzene	**0.54J**	ug/L	1.0	0.24	1		10/15/13 11:35	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.50	1		10/15/13 11:35	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.25	1		10/15/13 11:35	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		10/15/13 11:35	75-25-2	
Bromomethane	ND	ug/L	4.0	2.0	1		10/15/13 11:35	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		10/15/13 11:35	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.22	1		10/15/13 11:35	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.31	1		10/15/13 11:35	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.24	1		10/15/13 11:35	108-90-7	
Chloroethane	ND	ug/L	1.0	0.50	1		10/15/13 11:35	75-00-3	
Chloroform	ND	ug/L	1.0	0.27	1		10/15/13 11:35	67-66-3	
Chloromethane	ND	ug/L	4.0	2.0	1		10/15/13 11:35	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2.0	1		10/15/13 11:35	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.27	1		10/15/13 11:35	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.23	1		10/15/13 11:35	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.14	1		10/15/13 11:35	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.092	1		10/15/13 11:35	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.50	1		10/15/13 11:35	541-73-1	
1,4-Dichlorobenzene	**1.5**	ug/L	1.0	0.50	1		10/15/13 11:35	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	5.0	1		10/15/13 11:35	110-57-6	
Dichlorodifluoromethane	**1.3**	ug/L	1.0	0.40	1		10/15/13 11:35	75-71-8	
1,1-Dichloroethane	**1.5**	ug/L	1.0	0.50	1		10/15/13 11:35	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.22	1		10/15/13 11:35	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.24	1		10/15/13 11:35	75-35-4	
cis-1,2-Dichloroethene	**2.7**	ug/L	1.0	0.23	1		10/15/13 11:35	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.24	1		10/15/13 11:35	156-60-5	
1,2-Dichloropropane	**0.61J**	ug/L	4.0	0.20	1		10/15/13 11:35	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.50	1		10/15/13 11:35	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	2.0	1		10/15/13 11:35	10061-02-6	
Ethylbenzene	**0.26J**	ug/L	1.0	0.24	1		10/15/13 11:35	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.5	1		10/15/13 11:35	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		10/15/13 11:35	74-88-4	
Methylene Chloride	ND	ug/L	4.0	2.0	1		10/15/13 11:35	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.5	1		10/15/13 11:35	108-10-1	
Styrene	ND	ug/L	1.0	0.24	1		10/15/13 11:35	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		10/15/13 11:35	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.13	1		10/15/13 11:35	79-34-5	
Tetrachloroethene	**0.38J**	ug/L	1.0	0.29	1		10/15/13 11:35	127-18-4	
Toluene	**0.23J**	ug/L	1.0	0.23	1		10/15/13 11:35	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.50	1		10/15/13 11:35	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.16	1		10/15/13 11:35	79-00-5	
Trichloroethene	**0.30J**	ug/L	0.40	0.12	1		10/15/13 11:35	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.13	1		10/15/13 11:35	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.54	1		10/15/13 11:35	96-18-4	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: BSB-GW-04-100113 **Lab ID: 10244297004** Collected: 10/01/13 15:30 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl acetate	ND	ug/L	10.0	5.0	1		10/15/13 11:35	108-05-4	
Vinyl chloride	**1.6**	ug/L	0.40	0.14	1		10/15/13 11:35	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.72	1		10/15/13 11:35	1330-20-7	
m&p-Xylene	**0.61J**	ug/L	2.0	0.48	1		10/15/13 11:35	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.24	1		10/15/13 11:35	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	80	%	75-125		1		10/15/13 11:35	17060-07-0	
Toluene-d8 (S)	100	%	75-125		1		10/15/13 11:35	2037-26-5	
4-Bromofluorobenzene (S)	99	%	75-125		1		10/15/13 11:35	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**2360**	umhos/cm	1.0	0.50	1		10/10/13 13:23		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.1**	Std. Units	0.10	0.050	1		10/14/13 12:51		H6
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.034J**	mg/L	0.10	0.020	1		10/11/13 13:56		
410.4 COD	Analytical Method: EPA 410.4								
Chemical Oxygen Demand	**280**	mg/L	50.0	25.0	1		10/11/13 16:35		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**1120**	mg/L	125	62.5	50		10/11/13 15:06	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**66.0**	mg/L	4.0	2.0	2		10/08/13 11:56	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E								
Cyanide	**14.8**	ug/L	10.0	5.0	1		10/15/13 12:08	57-12-5	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: BSB-GW-07-100113 **Lab ID: 10244297005** Collected: 10/01/13 15:30 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	10.0	1		10/15/13 11:59	67-64-1	
Acetonitrile	ND	ug/L	100	6.4	1		10/15/13 11:59	75-05-8	
Benzene	**0.53J**	ug/L	1.0	0.24	1		10/15/13 11:59	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.50	1		10/15/13 11:59	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.25	1		10/15/13 11:59	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		10/15/13 11:59	75-25-2	
Bromomethane	ND	ug/L	4.0	2.0	1		10/15/13 11:59	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		10/15/13 11:59	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.22	1		10/15/13 11:59	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.31	1		10/15/13 11:59	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.24	1		10/15/13 11:59	108-90-7	
Chloroethane	ND	ug/L	1.0	0.50	1		10/15/13 11:59	75-00-3	
Chloroform	ND	ug/L	1.0	0.27	1		10/15/13 11:59	67-66-3	
Chloromethane	ND	ug/L	4.0	2.0	1		10/15/13 11:59	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2.0	1		10/15/13 11:59	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.27	1		10/15/13 11:59	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.23	1		10/15/13 11:59	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.14	1		10/15/13 11:59	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.092	1		10/15/13 11:59	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.50	1		10/15/13 11:59	541-73-1	
1,4-Dichlorobenzene	**1.4**	ug/L	1.0	0.50	1		10/15/13 11:59	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	5.0	1		10/15/13 11:59	110-57-6	
Dichlorodifluoromethane	**1.3**	ug/L	1.0	0.40	1		10/15/13 11:59	75-71-8	
1,1-Dichloroethane	**1.5**	ug/L	1.0	0.50	1		10/15/13 11:59	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.22	1		10/15/13 11:59	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.24	1		10/15/13 11:59	75-35-4	
cis-1,2-Dichloroethene	**2.6**	ug/L	1.0	0.23	1		10/15/13 11:59	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.24	1		10/15/13 11:59	156-60-5	
1,2-Dichloropropane	**0.60J**	ug/L	4.0	0.20	1		10/15/13 11:59	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.50	1		10/15/13 11:59	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	2.0	1		10/15/13 11:59	10061-02-6	
Ethylbenzene	**0.29J**	ug/L	1.0	0.24	1		10/15/13 11:59	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.5	1		10/15/13 11:59	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		10/15/13 11:59	74-88-4	
Methylene Chloride	ND	ug/L	4.0	2.0	1		10/15/13 11:59	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.5	1		10/15/13 11:59	108-10-1	
Styrene	ND	ug/L	1.0	0.24	1		10/15/13 11:59	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		10/15/13 11:59	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.13	1		10/15/13 11:59	79-34-5	
Tetrachloroethene	**0.32J**	ug/L	1.0	0.29	1		10/15/13 11:59	127-18-4	
Toluene	ND	ug/L	1.0	0.23	1		10/15/13 11:59	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.50	1		10/15/13 11:59	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.16	1		10/15/13 11:59	79-00-5	
Trichloroethene	**0.30J**	ug/L	0.40	0.12	1		10/15/13 11:59	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.13	1		10/15/13 11:59	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.54	1		10/15/13 11:59	96-18-4	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: BSB-GW-07-100113 **Lab ID: 10244297005** Collected: 10/01/13 15:30 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl acetate	ND	ug/L	10.0	5.0	1		10/15/13 11:59	108-05-4	
Vinyl chloride	**1.5**	ug/L	0.40	0.14	1		10/15/13 11:59	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.72	1		10/15/13 11:59	1330-20-7	
m&p-Xylene	**0.55J**	ug/L	2.0	0.48	1		10/15/13 11:59	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.24	1		10/15/13 11:59	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	80	%	75-125		1		10/15/13 11:59	17060-07-0	
Toluene-d8 (S)	102	%	75-125		1		10/15/13 11:59	2037-26-5	
4-Bromofluorobenzene (S)	97	%	75-125		1		10/15/13 11:59	460-00-4	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: TRIP BLANK **Lab ID: 10244297006** Collected: 10/01/13 00:00 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	ug/L	20.0	10.0	1		10/15/13 18:15	67-64-1	
Acetonitrile	ND	ug/L	100	6.4	1		10/15/13 18:15	75-05-8	
Benzene	ND	ug/L	1.0	0.24	1		10/15/13 18:15	71-43-2	
Bromochloromethane	ND	ug/L	1.0	0.50	1		10/15/13 18:15	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	0.25	1		10/15/13 18:15	75-27-4	
Bromoform	ND	ug/L	4.0	2.0	1		10/15/13 18:15	75-25-2	
Bromomethane	ND	ug/L	4.0	2.0	1		10/15/13 18:15	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	2.5	1		10/15/13 18:15	78-93-3	
Carbon disulfide	ND	ug/L	1.0	0.22	1		10/15/13 18:15	75-15-0	
Carbon tetrachloride	ND	ug/L	1.0	0.31	1		10/15/13 18:15	56-23-5	
Chlorobenzene	ND	ug/L	1.0	0.24	1		10/15/13 18:15	108-90-7	
Chloroethane	ND	ug/L	1.0	0.50	1		10/15/13 18:15	75-00-3	
Chloroform	ND	ug/L	1.0	0.27	1		10/15/13 18:15	67-66-3	
Chloromethane	ND	ug/L	4.0	2.0	1		10/15/13 18:15	74-87-3	
1,2-Dibromo-3-chloropropane	ND	ug/L	4.0	2.0	1		10/15/13 18:15	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	0.27	1		10/15/13 18:15	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	0.23	1		10/15/13 18:15	106-93-4	
Dibromomethane	ND	ug/L	4.0	0.14	1		10/15/13 18:15	74-95-3	
1,2-Dichlorobenzene	ND	ug/L	1.0	0.092	1		10/15/13 18:15	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	0.50	1		10/15/13 18:15	541-73-1	
1,4-Dichlorobenzene	ND	ug/L	1.0	0.50	1		10/15/13 18:15	106-46-7	
trans-1,4-Dichloro-2-butene	ND	ug/L	10.0	5.0	1		10/15/13 18:15	110-57-6	
Dichlorodifluoromethane	ND	ug/L	1.0	0.40	1		10/15/13 18:15	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	0.50	1		10/15/13 18:15	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	0.22	1		10/15/13 18:15	107-06-2	
1,1-Dichloroethene	ND	ug/L	1.0	0.24	1		10/15/13 18:15	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	0.23	1		10/15/13 18:15	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	0.24	1		10/15/13 18:15	156-60-5	
1,2-Dichloropropane	ND	ug/L	4.0	0.20	1		10/15/13 18:15	78-87-5	
cis-1,3-Dichloropropene	ND	ug/L	4.0	0.50	1		10/15/13 18:15	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	4.0	2.0	1		10/15/13 18:15	10061-02-6	
Ethylbenzene	ND	ug/L	1.0	0.24	1		10/15/13 18:15	100-41-4	
2-Hexanone	ND	ug/L	5.0	2.5	1		10/15/13 18:15	591-78-6	
Iodomethane	ND	ug/L	4.0	2.0	1		10/15/13 18:15	74-88-4	
Methylene Chloride	ND	ug/L	4.0	2.0	1		10/15/13 18:15	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	2.5	1		10/15/13 18:15	108-10-1	
Styrene	ND	ug/L	1.0	0.24	1		10/15/13 18:15	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	0.50	1		10/15/13 18:15	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	0.13	1		10/15/13 18:15	79-34-5	
Tetrachloroethene	ND	ug/L	1.0	0.29	1		10/15/13 18:15	127-18-4	
Toluene	ND	ug/L	1.0	0.23	1		10/15/13 18:15	108-88-3	
1,1,1-Trichloroethane	ND	ug/L	1.0	0.50	1		10/15/13 18:15	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	0.16	1		10/15/13 18:15	79-00-5	
Trichloroethene	ND	ug/L	0.40	0.12	1		10/15/13 18:15	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	0.13	1		10/15/13 18:15	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	4.0	0.54	1		10/15/13 18:15	96-18-4	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10244297

Sample: TRIP BLANK **Lab ID: 10244297006** Collected: 10/01/13 00:00 Received: 10/03/13 09:38 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl acetate	ND	ug/L	10.0	5.0	1		10/15/13 18:15	108-05-4	
Vinyl chloride	ND	ug/L	0.40	0.14	1		10/15/13 18:15	75-01-4	
Xylene (Total)	ND	ug/L	3.0	0.72	1		10/15/13 18:15	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.48	1		10/15/13 18:15	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.24	1		10/15/13 18:15	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	85	%	75-125		1		10/15/13 18:15	17060-07-0	
Toluene-d8 (S)	95	%	75-125		1		10/15/13 18:15	2037-26-5	
4-Bromofluorobenzene (S)	96	%	75-125		1		10/15/13 18:15	460-00-4	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

QC Batch: MPRP/42480
QC Batch Method: EPA 200.8
Associated Lab Samples: 10244297001
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved

METHOD BLANK: 1546184
Matrix: Water
Associated Lab Samples: 10244297001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.00050	10/23/13 11:27	
Arsenic, Dissolved	mg/L	ND	0.00050	10/23/13 11:27	
Barium, Dissolved	mg/L	ND	0.00030	10/23/13 11:27	
Beryllium, Dissolved	mg/L	ND	0.00020	10/23/13 11:27	
Cadmium, Dissolved	mg/L	ND	0.000080	10/23/13 11:27	
Chromium, Dissolved	mg/L	ND	0.00050	10/23/13 11:27	
Cobalt, Dissolved	mg/L	ND	0.00050	10/23/13 11:27	
Copper, Dissolved	mg/L	0.00025J	0.00050	10/22/13 22:18	
Iron, Dissolved	mg/L	ND	0.050	10/23/13 11:27	
Lead, Dissolved	mg/L	ND	0.00010	10/23/13 11:27	
Nickel, Dissolved	mg/L	ND	0.00050	10/23/13 11:27	
Selenium, Dissolved	mg/L	ND	0.00050	10/23/13 11:27	
Vanadium, Dissolved	mg/L	ND	0.00010	10/23/13 11:27	
Zinc, Dissolved	mg/L	ND	0.0050	10/23/13 11:27	

LABORATORY CONTROL SAMPLE: 1546185

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	.08	0.076	95	85-115	
Arsenic, Dissolved	mg/L	.08	0.080	100	85-115	
Barium, Dissolved	mg/L	.08	0.080	99	85-115	
Beryllium, Dissolved	mg/L	.08	0.077	97	85-115	
Cadmium, Dissolved	mg/L	.08	0.075	94	85-115	
Chromium, Dissolved	mg/L	.08	0.076	95	85-115	
Cobalt, Dissolved	mg/L	.08	0.079	99	85-115	
Copper, Dissolved	mg/L	.08	0.080	100	85-115	
Iron, Dissolved	mg/L	1	0.99	99	85-115	
Lead, Dissolved	mg/L	.08	0.077	97	85-115	
Nickel, Dissolved	mg/L	.08	0.076	95	85-115	
Selenium, Dissolved	mg/L	.08	0.077	97	85-115	
Vanadium, Dissolved	mg/L	.08	0.072	90	85-115	
Zinc, Dissolved	mg/L	.08	0.073	92	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1546186 1546187

Parameter	Units	10244297001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	mg/L	0.000092J	.08	.08	0.080	0.077	100	97	70-130	3	20	
Arsenic, Dissolved	mg/L	0.0013	.08	.08	0.085	0.083	104	102	70-130	2	20	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1546186 1546187

Parameter	Units	10244297001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Barium, Dissolved	mg/L	0.16	.08	.08	0.24	0.25	101	103	70-130	.5	20	
Beryllium, Dissolved	mg/L	ND	.08	.08	0.079	0.080	99	100	70-130	1	20	
Cadmium, Dissolved	mg/L	ND	.08	.08	0.076	0.075	95	93	70-130	1	20	
Chromium, Dissolved	mg/L	0.00045J	.08	.08	0.078	0.077	96	96	70-130	.8	20	
Cobalt, Dissolved	mg/L	0.00013J	.08	.08	0.076	0.075	95	94	70-130	1	20	
Copper, Dissolved	mg/L	0.0015	.08	.08	0.082	0.081	100	99	70-130	1	20	
Iron, Dissolved	mg/L	ND	1	1	1.0	1.0	103	103	70-130	.6	20	
Lead, Dissolved	mg/L	0.000061J	.08	.08	0.077	0.078	96	97	70-130	1	20	
Nickel, Dissolved	mg/L	0.00059	.08	.08	0.076	0.075	94	94	70-130	.7	20	
Selenium, Dissolved	mg/L	0.00046J	.08	.08	0.077	0.080	96	99	70-130	3	20	
Vanadium, Dissolved	mg/L	0.0065	.08	.08	0.081	0.081	93	92	70-130	.8	20	
Zinc, Dissolved	mg/L	0.0017J	.08	.08	0.075	0.074	92	90	70-130	1	20	

MATRIX SPIKE SAMPLE: 1546188

Parameter	Units	10244551006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	0.12J ug/L	.08	0.076	95	70-130	
Arsenic, Dissolved	mg/L	0.0015	.08	0.080	98	70-130	
Barium, Dissolved	mg/L	46.0 ug/L	.08	0.12	89	70-130	
Beryllium, Dissolved	mg/L	ND	.08	0.076	95	70-130	
Cadmium, Dissolved	mg/L	ND	.08	0.074	92	70-130	
Chromium, Dissolved	mg/L	0.22J ug/L	.08	0.077	96	70-130	
Cobalt, Dissolved	mg/L	0.086J ug/L	.08	0.073	91	70-130	
Copper, Dissolved	mg/L	0.0058	.08	0.078	90	70-130	
Iron, Dissolved	mg/L	ND	1	1.0	101	70-130	
Lead, Dissolved	mg/L	0.00026	.08	0.073	91	70-130	
Nickel, Dissolved	mg/L	ND	.08	0.075	94	70-130	
Selenium, Dissolved	mg/L	ND	.08	0.078	97	70-130	
Vanadium, Dissolved	mg/L	3.4 ug/L	.08	0.078	94	70-130	
Zinc, Dissolved	mg/L	0.0051	.08	0.072	84	70-130	

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QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

QC Batch: MSV/25288
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004, 10244297005

METHOD BLANK: 1552071
Matrix: Water
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004, 10244297005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	10/15/13 05:10	
1,1,1-Trichloroethane	ug/L	ND	1.0	10/15/13 05:10	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/15/13 05:10	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/15/13 05:10	
1,1-Dichloroethane	ug/L	ND	1.0	10/15/13 05:10	
1,1-Dichloroethene	ug/L	ND	1.0	10/15/13 05:10	
1,2,3-Trichloropropane	ug/L	ND	4.0	10/15/13 05:10	
1,2-Dibromo-3-chloropropane	ug/L	ND	4.0	10/15/13 05:10	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	10/15/13 05:10	
1,2-Dichlorobenzene	ug/L	ND	1.0	10/15/13 05:10	
1,2-Dichloroethane	ug/L	ND	1.0	10/15/13 05:10	
1,2-Dichloropropane	ug/L	ND	4.0	10/15/13 05:10	
1,3-Dichlorobenzene	ug/L	ND	1.0	10/15/13 05:10	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/15/13 05:10	
2-Butanone (MEK)	ug/L	ND	5.0	10/15/13 05:10	
2-Hexanone	ug/L	ND	5.0	10/15/13 05:10	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	10/15/13 05:10	
Acetone	ug/L	ND	20.0	10/15/13 05:10	
Acetonitrile	ug/L	ND	100	10/15/13 05:10	
Benzene	ug/L	ND	1.0	10/15/13 05:10	
Bromochloromethane	ug/L	ND	1.0	10/15/13 05:10	
Bromodichloromethane	ug/L	ND	1.0	10/15/13 05:10	
Bromoform	ug/L	ND	4.0	10/15/13 05:10	
Bromomethane	ug/L	ND	4.0	10/15/13 05:10	
Carbon disulfide	ug/L	ND	1.0	10/15/13 05:10	
Carbon tetrachloride	ug/L	ND	1.0	10/15/13 05:10	
Chlorobenzene	ug/L	ND	1.0	10/15/13 05:10	
Chloroethane	ug/L	ND	1.0	10/15/13 05:10	
Chloroform	ug/L	ND	1.0	10/15/13 05:10	
Chloromethane	ug/L	ND	4.0	10/15/13 05:10	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/15/13 05:10	
cis-1,3-Dichloropropene	ug/L	ND	4.0	10/15/13 05:10	
Dibromochloromethane	ug/L	ND	1.0	10/15/13 05:10	
Dibromomethane	ug/L	ND	4.0	10/15/13 05:10	
Dichlorodifluoromethane	ug/L	ND	1.0	10/15/13 05:10	
Ethylbenzene	ug/L	ND	1.0	10/15/13 05:10	
Iodomethane	ug/L	ND	4.0	10/15/13 05:10	
m&p-Xylene	ug/L	ND	2.0	10/15/13 05:10	
Methylene Chloride	ug/L	ND	4.0	10/15/13 05:10	
o-Xylene	ug/L	ND	1.0	10/15/13 05:10	
Styrene	ug/L	ND	1.0	10/15/13 05:10	
Tetrachloroethene	ug/L	ND	1.0	10/15/13 05:10	
Toluene	ug/L	ND	1.0	10/15/13 05:10	

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QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

METHOD BLANK: 1552071 Matrix: Water

Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004, 10244297005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/15/13 05:10	
trans-1,3-Dichloropropene	ug/L	ND	4.0	10/15/13 05:10	
trans-1,4-Dichloro-2-butene	ug/L	ND	10.0	10/15/13 05:10	
Trichloroethene	ug/L	ND	0.40	10/15/13 05:10	
Trichlorofluoromethane	ug/L	ND	1.0	10/15/13 05:10	
Vinyl acetate	ug/L	ND	10.0	10/15/13 05:10	
Vinyl chloride	ug/L	ND	0.40	10/15/13 05:10	
Xylene (Total)	ug/L	ND	3.0	10/15/13 05:10	
1,2-Dichloroethane-d4 (S)	%	81	75-125	10/15/13 05:10	
4-Bromofluorobenzene (S)	%	102	75-125	10/15/13 05:10	
Toluene-d8 (S)	%	100	75-125	10/15/13 05:10	

LABORATORY CONTROL SAMPLE: 1552072

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	21.9	110	75-125	
1,1,1-Trichloroethane	ug/L	20	19.6	98	75-126	
1,1,2,2-Tetrachloroethane	ug/L	20	18.5	92	75-125	
1,1,2-Trichloroethane	ug/L	20	20.5	103	75-125	
1,1-Dichloroethane	ug/L	20	18.8	94	75-125	
1,1-Dichloroethene	ug/L	20	20.0	100	71-126	
1,2,3-Trichloropropane	ug/L	20	18.6	93	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	47.1	94	73-125	
1,2-Dibromoethane (EDB)	ug/L	20	20.3	101	75-125	
1,2-Dichlorobenzene	ug/L	20	22.0	110	75-125	
1,2-Dichloroethane	ug/L	20	16.1	80	74-125	
1,2-Dichloropropane	ug/L	20	20.2	101	75-125	
1,3-Dichlorobenzene	ug/L	20	21.9	109	75-125	
1,4-Dichlorobenzene	ug/L	20	20.4	102	75-125	
2-Butanone (MEK)	ug/L	100	69.0	69	68-126	
2-Hexanone	ug/L	100	88.9	89	70-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	86.2	86	72-125	
Acetone	ug/L	100	114	114	69-132	
Acetonitrile	ug/L	200	148	74	62-127	
Benzene	ug/L	20	18.9	94	75-125	
Bromochloromethane	ug/L	20	21.2	106	75-125	
Bromodichloromethane	ug/L	20	19.5	98	75-125	
Bromoform	ug/L	20	20.1	100	75-126	
Bromomethane	ug/L	20	17.4	87	30-150	
Carbon disulfide	ug/L	20	18.2	91	66-126	
Carbon tetrachloride	ug/L	20	20.5	103	74-127	
Chlorobenzene	ug/L	20	20.7	103	75-125	
Chloroethane	ug/L	20	19.2	96	68-132	
Chloroform	ug/L	20	17.7	89	75-125	
Chloromethane	ug/L	20	18.5	92	61-129	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

LABORATORY CONTROL SAMPLE: 1552072

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	20	20.0	100	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.1	101	75-125	
Dibromochloromethane	ug/L	20	21.0	105	75-125	
Dibromomethane	ug/L	20	21.9	109	75-125	
Dichlorodifluoromethane	ug/L	20	15.5	78	49-137	
Ethylbenzene	ug/L	20	20.6	103	75-125	
Iodomethane	ug/L	20	21.0	105	30-141	
m&p-Xylene	ug/L	40	43.2	108	75-125	
Methylene Chloride	ug/L	20	17.6	88	75-125	
o-Xylene	ug/L	20	22.6	113	75-125	
Styrene	ug/L	20	22.8	114	75-125	
Tetrachloroethene	ug/L	20	20.9	104	75-125	
Toluene	ug/L	20	20.4	102	75-125	
trans-1,2-Dichloroethene	ug/L	20	20.2	101	74-125	
trans-1,3-Dichloropropene	ug/L	20	21.1	106	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	38.3	77	70-127	
Trichloroethene	ug/L	20	22.6	113	75-125	
Trichlorofluoromethane	ug/L	20	18.9	95	69-129	
Vinyl acetate	ug/L	20	15.5	78	70-125	
Vinyl chloride	ug/L	20	18.9	94	70-128	
Xylene (Total)	ug/L	60	65.8	110	75-125	
1,2-Dichloroethane-d4 (S)	%			80	75-125	
4-Bromofluorobenzene (S)	%			98	75-125	
Toluene-d8 (S)	%			100	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1552073 1552074

Parameter	Units	10244159002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	27.4	18.6	137	93	75-125	39	30	M1,R1
1,1,1-Trichloroethane	ug/L	ND	20	20	25.3	17.8	127	89	75-136	35	30	R1
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	23.3	15.0	116	75	66-131	43	30	R1
1,1,2-Trichloroethane	ug/L	ND	20	20	26.3	17.8	132	89	75-125	39	30	M1,R1
1,1-Dichloroethane	ug/L	ND	20	20	25.1	17.7	126	89	75-131	35	30	R1
1,1-Dichloroethene	ug/L	ND	20	20	23.8	17.5	119	87	75-138	31	30	R1
1,2,3-Trichloropropane	ug/L	ND	20	20	23.0	15.2	115	76	71-126	41	30	R1
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	58.5	37.7	117	75	69-127	43	30	R1
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	25.7	17.0	129	85	75-125	41	30	M1,R1
1,2-Dichlorobenzene	ug/L	ND	20	20	24.4	15.7	122	79	75-125	43	30	R1
1,2-Dichloroethane	ug/L	ND	20	20	20.8	14.3	104	72	74-128	37	30	M1,R1
1,2-Dichloropropane	ug/L	ND	20	20	26.3	18.3	131	91	75-125	36	30	M1,R1
1,3-Dichlorobenzene	ug/L	ND	20	20	23.9	15.8	119	79	75-125	41	30	R1
1,4-Dichlorobenzene	ug/L	ND	20	20	22.4	14.8	112	74	75-125	41	30	M1,R1
2-Butanone (MEK)	ug/L	ND	100	100	89.6	61.3	90	61	64-125	37	30	M1,R1
2-Hexanone	ug/L	ND	100	100	111	73.7	111	74	67-125	41	30	R1
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	113	75.3	113	75	69-125	40	30	R1
Acetone	ug/L	ND	100	100	144	97.8	144	98	57-135	38	30	M1,R1

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1552073 1552074

Parameter	Units	10244159002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acetonitrile	ug/L	ND	200	200	199	141	99	71	62-125	34	30	R1
Benzene	ug/L	ND	20	20	24.0	17.1	119	85	70-135	34	30	R1
Bromochloromethane	ug/L	ND	20	20	27.6	18.8	138	94	75-125	34	30	R1
Bromodichloromethane	ug/L	ND	20	20	25.4	17.6	127	88	75-125	38	30	M1,R1
Bromoform	ug/L	ND	20	20	26.2	16.8	131	84	75-125	36	30	M1,R1
Bromomethane	ug/L	ND	20	20	30.9	19.3	154	96	68-133	44	30	R1
Carbon disulfide	ug/L	ND	20	20	20.7	14.8	104	74	56-150	46	30	M1,R1
Carbon tetrachloride	ug/L	ND	20	20	25.9	18.3	129	91	66-135	34	30	R1
Chlorobenzene	ug/L	ND	20	20	25.7	17.9	129	89	75-137	35	30	R1
Chloroethane	ug/L	ND	20	20	36.4	19.5	182	98	75-125	36	30	M1,R1
Chloroform	ug/L	ND	20	20	22.1	15.6	110	78	64-150	60	30	M1,R1
Chloromethane	ug/L	ND	20	20	29.9	19.2	149	96	75-127	34	30	R1
cis-1,2-Dichloroethene	ug/L	ND	20	20	26.4	18.5	132	92	65-140	44	30	M1,R1
cis-1,3-Dichloropropene	ug/L	ND	20	20	25.6	17.3	128	87	75-129	35	30	M1,R1
Dibromochloromethane	ug/L	ND	20	20	27.0	17.8	135	89	75-125	38	30	M1,R1
Dibromomethane	ug/L	ND	20	20	28.4	19.5	142	98	75-125	41	30	M1,R1
Dichlorodifluoromethane	ug/L	ND	20	20	38.3	21.1	191	105	75-125	37	30	M1,R1
Ethylbenzene	ug/L	ND	20	20	23.7	16.4	119	82	70-150	58	30	M1,R1
Iodomethane	ug/L	ND	20	20	28.1	18.8	140	94	75-125	37	30	R1
m&p-Xylene	ug/L		40	40	50.5	34.0	126	85	49-150	39	30	R1
Methylene Chloride	ug/L	ND	20	20	22.8	16.0	114	80	75-125	39	30	M1,R1
o-Xylene	ug/L		20	20	27.8	18.6	139	93	73-125	35	30	R1
Styrene	ug/L	ND	20	20	28.4	18.7	142	94	75-125	40	30	M1,R1
Tetrachloroethene	ug/L	ND	20	20	23.4	16.2	117	81	52-137	41	30	M1,R1
Toluene	ug/L	ND	20	20	25.0	17.8	125	88	75-130	36	30	R1
trans-1,2-Dichloroethene	ug/L	ND	20	20	25.4	17.7	127	89	75-125	34	30	R1
trans-1,3-Dichloropropene	ug/L	ND	20	20	27.9	18.4	140	92	75-135	35	30	R1
trans-1,4-Dichloro-2-butene	ug/L	ND	50	50	48.7	31.9	97	64	75-125	41	30	M1,R1
Trichloroethene	ug/L	ND	20	20	27.5	19.2	137	96	62-130	42	30	R1
Trichlorofluoromethane	ug/L	ND	20	20	36.1	20.3	180	102	75-129	35	30	M1,R1
Vinyl acetate	ug/L	ND	20	20	18.8	12.2	94	61	75-150	56	30	M1,R1
Vinyl chloride	ug/L	ND	20	20	32.3	19.8	162	99	57-139	43	30	R1
Xylene (Total)	ug/L	ND	60	60	78.3	52.6	131	88	75-147	48	30	M1,R1
1,2-Dichloroethane-d4 (S)	%						77	79	75-125	39	30	MS,RS
4-Bromofluorobenzene (S)	%						97	97	75-125			
Toluene-d8 (S)	%						102	103	75-125			

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

QC Batch: MSV/25289
QC Batch Method: EPA 8260
Associated Lab Samples: 10244297006

Analysis Method: EPA 8260
Analysis Description: 8260 MSV

METHOD BLANK: 1552185
Matrix: Water
Associated Lab Samples: 10244297006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	10/15/13 16:07	
1,1,1-Trichloroethane	ug/L	ND	1.0	10/15/13 16:07	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	10/15/13 16:07	
1,1,2-Trichloroethane	ug/L	ND	1.0	10/15/13 16:07	
1,1-Dichloroethane	ug/L	ND	1.0	10/15/13 16:07	
1,1-Dichloroethene	ug/L	ND	1.0	10/15/13 16:07	
1,2,3-Trichloropropane	ug/L	ND	4.0	10/15/13 16:07	
1,2-Dibromo-3-chloropropane	ug/L	ND	4.0	10/15/13 16:07	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	10/15/13 16:07	
1,2-Dichlorobenzene	ug/L	ND	1.0	10/15/13 16:07	
1,2-Dichloroethane	ug/L	ND	1.0	10/15/13 16:07	
1,2-Dichloropropane	ug/L	ND	4.0	10/15/13 16:07	
1,3-Dichlorobenzene	ug/L	ND	1.0	10/15/13 16:07	
1,4-Dichlorobenzene	ug/L	ND	1.0	10/15/13 16:07	
2-Butanone (MEK)	ug/L	ND	5.0	10/15/13 16:07	
2-Hexanone	ug/L	ND	5.0	10/15/13 16:07	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	10/15/13 16:07	
Acetone	ug/L	ND	20.0	10/15/13 16:07	
Acetonitrile	ug/L	ND	100	10/15/13 16:07	
Benzene	ug/L	ND	1.0	10/15/13 16:07	
Bromochloromethane	ug/L	ND	1.0	10/15/13 16:07	
Bromodichloromethane	ug/L	ND	1.0	10/15/13 16:07	
Bromoform	ug/L	ND	4.0	10/15/13 16:07	
Bromomethane	ug/L	ND	4.0	10/15/13 16:07	
Carbon disulfide	ug/L	ND	1.0	10/15/13 16:07	
Carbon tetrachloride	ug/L	ND	1.0	10/15/13 16:07	
Chlorobenzene	ug/L	ND	1.0	10/15/13 16:07	
Chloroethane	ug/L	ND	1.0	10/15/13 16:07	
Chloroform	ug/L	ND	1.0	10/15/13 16:07	
Chloromethane	ug/L	ND	4.0	10/15/13 16:07	
cis-1,2-Dichloroethene	ug/L	ND	1.0	10/15/13 16:07	
cis-1,3-Dichloropropene	ug/L	ND	4.0	10/15/13 16:07	
Dibromochloromethane	ug/L	ND	1.0	10/15/13 16:07	
Dibromomethane	ug/L	ND	4.0	10/15/13 16:07	
Dichlorodifluoromethane	ug/L	ND	1.0	10/15/13 16:07	
Ethylbenzene	ug/L	ND	1.0	10/15/13 16:07	
Iodomethane	ug/L	ND	4.0	10/15/13 16:07	
m&p-Xylene	ug/L	ND	2.0	10/15/13 16:07	
Methylene Chloride	ug/L	ND	4.0	10/15/13 16:07	
o-Xylene	ug/L	ND	1.0	10/15/13 16:07	
Styrene	ug/L	ND	1.0	10/15/13 16:07	
Tetrachloroethene	ug/L	ND	1.0	10/15/13 16:07	
Toluene	ug/L	ND	1.0	10/15/13 16:07	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

METHOD BLANK: 1552185 Matrix: Water

Associated Lab Samples: 10244297006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
trans-1,2-Dichloroethene	ug/L	ND	1.0	10/15/13 16:07	
trans-1,3-Dichloropropene	ug/L	ND	4.0	10/15/13 16:07	
trans-1,4-Dichloro-2-butene	ug/L	ND	10.0	10/15/13 16:07	
Trichloroethene	ug/L	ND	0.40	10/15/13 16:07	
Trichlorofluoromethane	ug/L	ND	1.0	10/15/13 16:07	
Vinyl acetate	ug/L	ND	10.0	10/15/13 16:07	
Vinyl chloride	ug/L	ND	0.40	10/15/13 16:07	
Xylene (Total)	ug/L	ND	3.0	10/15/13 16:07	
1,2-Dichloroethane-d4 (S)	%	82	75-125	10/15/13 16:07	
4-Bromofluorobenzene (S)	%	98	75-125	10/15/13 16:07	
Toluene-d8 (S)	%	95	75-125	10/15/13 16:07	

LABORATORY CONTROL SAMPLE: 1552186

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	20	19.3	97	75-125	
1,1,1-Trichloroethane	ug/L	20	19.2	96	75-126	
1,1,2,2-Tetrachloroethane	ug/L	20	17.0	85	75-125	
1,1,2-Trichloroethane	ug/L	20	19.2	96	75-125	
1,1-Dichloroethane	ug/L	20	19.0	95	75-125	
1,1-Dichloroethene	ug/L	20	21.2	106	71-126	
1,2,3-Trichloropropane	ug/L	20	17.8	89	75-125	
1,2-Dibromo-3-chloropropane	ug/L	50	45.2	90	73-125	
1,2-Dibromoethane (EDB)	ug/L	20	19.2	96	75-125	
1,2-Dichlorobenzene	ug/L	20	18.7	94	75-125	
1,2-Dichloroethane	ug/L	20	16.8	84	74-125	
1,2-Dichloropropane	ug/L	20	19.7	99	75-125	
1,3-Dichlorobenzene	ug/L	20	18.4	92	75-125	
1,4-Dichlorobenzene	ug/L	20	17.8	89	75-125	
2-Butanone (MEK)	ug/L	100	81.8	82	68-126	
2-Hexanone	ug/L	100	88.7	89	70-125	
4-Methyl-2-pentanone (MIBK)	ug/L	100	87.3	87	72-125	
Acetone	ug/L	100	115	115	69-132	
Acetonitrile	ug/L	200	184	92	62-127	
Benzene	ug/L	20	19.0	95	75-125	
Bromochloromethane	ug/L	20	21.1	105	75-125	
Bromodichloromethane	ug/L	20	19.3	96	75-125	
Bromoform	ug/L	20	20.1	100	75-126	
Bromomethane	ug/L	20	21.4	107	30-150	
Carbon disulfide	ug/L	20	19.4	97	66-126	
Carbon tetrachloride	ug/L	20	19.2	96	74-127	
Chlorobenzene	ug/L	20	18.4	92	75-125	
Chloroethane	ug/L	20	20.1	100	68-132	
Chloroform	ug/L	20	18.9	94	75-125	
Chloromethane	ug/L	20	20.5	102	61-129	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

LABORATORY CONTROL SAMPLE: 1552186

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
cis-1,2-Dichloroethene	ug/L	20	20.3	101	75-125	
cis-1,3-Dichloropropene	ug/L	20	20.6	103	75-125	
Dibromochloromethane	ug/L	20	19.6	98	75-125	
Dibromomethane	ug/L	20	21.7	109	75-125	
Dichlorodifluoromethane	ug/L	20	15.5	78	49-137	
Ethylbenzene	ug/L	20	18.1	91	75-125	
Iodomethane	ug/L	20	21.3	107	30-141	
m&p-Xylene	ug/L	40	40.4	101	75-125	
Methylene Chloride	ug/L	20	20.1	101	75-125	
o-Xylene	ug/L	20	20.2	101	75-125	
Styrene	ug/L	20	21.4	107	75-125	
Tetrachloroethene	ug/L	20	20.0	100	75-125	
Toluene	ug/L	20	18.6	93	75-125	
trans-1,2-Dichloroethene	ug/L	20	20.7	103	74-125	
trans-1,3-Dichloropropene	ug/L	20	19.3	97	75-125	
trans-1,4-Dichloro-2-butene	ug/L	50	42.5	85	70-127	
Trichloroethene	ug/L	20	21.5	107	75-125	
Trichlorofluoromethane	ug/L	20	18.2	91	69-129	
Vinyl acetate	ug/L	20	18.6	93	70-125	
Vinyl chloride	ug/L	20	21.0	105	70-128	
Xylene (Total)	ug/L	60	60.5	101	75-125	
1,2-Dichloroethane-d4 (S)	%			79	75-125	
4-Bromofluorobenzene (S)	%			96	75-125	
Toluene-d8 (S)	%			96	75-125	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1552187 1552188

Parameter	Units	10244516004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,1,1,2-Tetrachloroethane	ug/L	ND	20	20	20.9	21.5	104	108	75-125	3	30	
1,1,1-Trichloroethane	ug/L	ND	20	20	21.1	21.7	106	108	75-136	3	30	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	20	17.8	18.1	89	91	66-131	2	30	
1,1,2-Trichloroethane	ug/L	ND	20	20	20.2	21.2	101	106	75-125	5	30	
1,1-Dichloroethane	ug/L	ND	20	20	20.6	21.1	103	105	75-131	2	30	
1,1-Dichloroethene	ug/L	ND	20	20	24.4	24.9	122	124	75-138	2	30	
1,2,3-Trichloropropane	ug/L	ND	20	20	18.7	19.4	94	97	71-126	3	30	
1,2-Dibromo-3-chloropropane	ug/L	ND	50	50	47.2	48.3	94	97	69-127	2	30	
1,2-Dibromoethane (EDB)	ug/L	ND	20	20	20.0	20.6	100	103	75-125	3	30	
1,2-Dichlorobenzene	ug/L	ND	20	20	19.9	20.7	100	104	75-125	4	30	
1,2-Dichloroethane	ug/L	ND	20	20	17.7	18.5	88	93	74-128	5	30	
1,2-Dichloropropane	ug/L	ND	20	20	20.7	21.2	104	106	75-125	2	30	
1,3-Dichlorobenzene	ug/L	ND	20	20	20.1	20.5	100	102	75-125	2	30	
1,4-Dichlorobenzene	ug/L	ND	20	20	19.0	19.5	95	98	75-125	3	30	
2-Butanone (MEK)	ug/L	ND	100	100	82.4	83.1	82	83	64-125	.9	30	
2-Hexanone	ug/L	ND	100	100	90.6	91.8	91	92	67-125	1	30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	100	100	88.6	89.5	89	89	69-125	1	30	
Acetone	ug/L	ND	100	100	128	131	125	128	57-135	2	30	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1552187 1552188

Parameter	Units	10244516004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Acetonitrile	ug/L	ND	200	200	190	194	95	97	62-125	2	30	
Benzene	ug/L	ND	20	20	20.4	21.3	102	107	70-135	5	30	
Bromochloromethane	ug/L	ND	20	20	22.5	23.6	113	118	75-125	5	30	
Bromodichloromethane	ug/L	ND	20	20	20.5	21.5	103	107	75-125	4	30	
Bromoform	ug/L	ND	20	20	21.3	21.6	107	108	68-133	2	30	
Bromomethane	ug/L	ND	20	20	18.7	23.8	93	119	56-150	24	30	
Carbon disulfide	ug/L	ND	20	20	21.3	22.0	107	110	66-135	3	30	
Carbon tetrachloride	ug/L	ND	20	20	22.2	22.4	111	112	75-137	1	30	
Chlorobenzene	ug/L	ND	20	20	19.7	20.2	98	101	75-125	3	30	
Chloroethane	ug/L	ND	20	20	21.3	21.9	106	110	64-150	3	30	
Chloroform	ug/L	ND	20	20	20.5	21.1	103	105	75-127	3	30	
Chloromethane	ug/L	ND	20	20	22.2	23.0	111	115	65-140	3	30	
cis-1,2-Dichloroethene	ug/L	1.9	20	20	23.9	24.7	110	114	75-129	3	30	
cis-1,3-Dichloropropene	ug/L	ND	20	20	20.3	21.3	101	107	75-125	5	30	
Dibromochloromethane	ug/L	ND	20	20	20.5	21.3	102	107	75-125	4	30	
Dibromomethane	ug/L	ND	20	20	22.8	23.8	114	119	75-125	4	30	
Dichlorodifluoromethane	ug/L	ND	20	20	26.1	24.8	131	124	70-150	5	30	
Ethylbenzene	ug/L	ND	20	20	19.7	20.0	99	100	75-125	1	30	
Iodomethane	ug/L	ND	20	20	22.1	23.4	111	117	49-150	6	30	
m&p-Xylene	ug/L		40	40	42.8	43.7	107	109	75-125	2	30	
Methylene Chloride	ug/L	ND	20	20	20.7	21.8	104	109	73-125	5	30	
o-Xylene	ug/L		20	20	21.3	21.5	106	108	75-125	1	30	
Styrene	ug/L	ND	20	20	22.7	23.4	113	117	52-137	3	30	
Tetrachloroethene	ug/L	ND	20	20	22.1	22.3	111	112	75-130	.9	30	
Toluene	ug/L	ND	20	20	20.0	20.4	100	102	75-125	2	30	
trans-1,2-Dichloroethene	ug/L	ND	20	20	23.1	23.8	114	118	75-135	3	30	
trans-1,3-Dichloropropene	ug/L	ND	20	20	19.4	20.5	97	103	75-125	6	30	
trans-1,4-Dichloro-2-butene	ug/L	ND	50	50	43.4	44.6	87	89	62-130	3	30	
Trichloroethene	ug/L	109	20	20	140	147	156	189	75-129	5	30	M1
Trichlorofluoromethane	ug/L	ND	20	20	24.0	23.8	120	119	75-150	.7	30	
Vinyl acetate	ug/L	ND	20	20	18.1	18.8	91	94	57-139	4	30	
Vinyl chloride	ug/L	ND	20	20	22.9	23.6	115	118	75-147	3	30	
Xylene (Total)	ug/L	ND	60	60	64.1	65.3	107	109	75-125	2	30	
1,2-Dichloroethane-d4 (S)	%						79	79	75-125			
4-Bromofluorobenzene (S)	%						96	96	75-125			
Toluene-d8 (S)	%						95	94	75-125			

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

QC Batch: WET/32708
QC Batch Method: EPA 120.1
Analysis Method: EPA 120.1
Analysis Description: 120.1 Specific Conductance
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

METHOD BLANK: 1545876
Matrix: Water
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	0.68J	1.0	10/10/13 13:05	

LABORATORY CONTROL SAMPLE: 1545877

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	1020	102	90-110	

SAMPLE DUPLICATE: 1545878

Parameter	Units	10244207001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	805	810	.6	20	

SAMPLE DUPLICATE: 1545879

Parameter	Units	10244644001 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	106	105	.3	20	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

QC Batch: WET/32699
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

LABORATORY CONTROL SAMPLE: 1545281

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.0	100	98-102	H6

SAMPLE DUPLICATE: 1545279

Parameter	Units	10243998001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	7.2	7.2	.3	3	H6

SAMPLE DUPLICATE: 1545280

Parameter	Units	10244315001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.2	8.1	.9	3	H6

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QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

QC Batch: WETA/16349
Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

METHOD BLANK: 1548504
Matrix: Water
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.10	10/11/13 13:36	

LABORATORY CONTROL SAMPLE: 1548505

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.6	104	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1548506 1548507

Parameter	Units	10244481001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.13	2.5	2.5	2.5	2.5	94	94	90-110	.4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1548508 1548509

Parameter	Units	10244793009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	<0.020	2.5	2.5	2.4	2.5	98	100	90-110	2	20	

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QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

QC Batch: WETA/16353
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

METHOD BLANK: 1548861
Matrix: Water
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50.0	10/11/13 16:23	

LABORATORY CONTROL SAMPLE: 1548862

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	300	289	96	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1548863 1548864

Parameter	Units	10244297001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chemical Oxygen Demand	mg/L	26.4J	250	250	260	273	93	99	90-110	5	20	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

QC Batch: WETA/16377
QC Batch Method: ASTM D516
Analysis Method: ASTM D516
Analysis Description: ASTM D516 Sulfate Water
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

METHOD BLANK: 1550319
Matrix: Water
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	10/11/13 14:25	

LABORATORY CONTROL SAMPLE: 1550320

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Sulfate	mg/L	7.5	7.0	93	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1550321 1550322

Parameter	Units	10244297001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	169	20	20	187	185	90	83	80-120	.8	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1550323 1550324

Parameter	Units	10244516004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	17.1	20	20	34.0	33.5	85	82	80-120	2	30	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

QC Batch: WETA/16315
Analysis Method: SM 4500-Cl E
QC Batch Method: SM 4500-Cl E
Analysis Description: SM4500Cl-E Chloride
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

METHOD BLANK: 1546526
Matrix: Water
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	2.0	10/08/13 11:46	

LABORATORY CONTROL SAMPLE: 1546527

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	30	30.7	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1546528 1546529

Parameter	Units	10244297001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	60.2	30	30	86.4	88.6	87	95	80-120	3	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1546530 1546531

Parameter	Units	10243850021 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	13.1	30	30	43.0	43.1	100	100	80-120	.1	30	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10244297

QC Batch: WETA/16385
QC Batch Method: SM 4500-CN-E
Analysis Method: SM 4500-CN-E
Analysis Description: SM4500CN-E Cyanide
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

METHOD BLANK: 1550986
Matrix: Water
Associated Lab Samples: 10244297001, 10244297002, 10244297003, 10244297004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	ug/L	ND	10.0	10/15/13 10:11	

LABORATORY CONTROL SAMPLE: 1550987

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	ug/L	250	258	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1550988 1550989

Parameter	Units	10244297001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	15.3	250	250	282	247	107	93	80-120	13	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1550990 1550991

Parameter	Units	1226324001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	ug/L	ND	250	250	258	273	103	109	80-120	6	30	

QUALIFIERS

Project: OLD LANDFILL
Pace Project No.: 10244297

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PRL - Pace Reporting Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.
R1	RPD value was outside control limits.
RS	The RPD value in one of the constituent analytes was outside the control limits.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: OLD LANDFILL
Pace Project No.: 10244297

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10244297001	**BSB-GW-01-100113**	EPA 200.8	MPRP/42480	EPA 200.8	ICPM/18053
10244297001	**BSB-GW-01-100113**	EPA 8260	MSV/25288		
10244297002	**BSB-GW-02-100113**	EPA 8260	MSV/25288		
10244297003	**BSB-GW-03-100113**	EPA 8260	MSV/25288		
10244297004	**BSB-GW-04-100113**	EPA 8260	MSV/25288		
10244297005	**BSB-GW-07-100113**	EPA 8260	MSV/25288		
10244297006	**TRIP BLANK**	EPA 8260	MSV/25289		
10244297001	**BSB-GW-01-100113**	EPA 120.1	WET/32708		
10244297002	**BSB-GW-02-100113**	EPA 120.1	WET/32708		
10244297003	**BSB-GW-03-100113**	EPA 120.1	WET/32708		
10244297004	**BSB-GW-04-100113**	EPA 120.1	WET/32708		
10244297001	**BSB-GW-01-100113**	SM 4500-H+B	WET/32699		
10244297002	**BSB-GW-02-100113**	SM 4500-H+B	WET/32699		
10244297003	**BSB-GW-03-100113**	SM 4500-H+B	WET/32699		
10244297004	**BSB-GW-04-100113**	SM 4500-H+B	WET/32699		
10244297001	**BSB-GW-01-100113**	EPA 353.2	WETA/16349		
10244297002	**BSB-GW-02-100113**	EPA 353.2	WETA/16349		
10244297003	**BSB-GW-03-100113**	EPA 353.2	WETA/16349		
10244297004	**BSB-GW-04-100113**	EPA 353.2	WETA/16349		
10244297001	**BSB-GW-01-100113**	EPA 410.4	WETA/16353		
10244297002	**BSB-GW-02-100113**	EPA 410.4	WETA/16353		
10244297003	**BSB-GW-03-100113**	EPA 410.4	WETA/16353		
10244297004	**BSB-GW-04-100113**	EPA 410.4	WETA/16353		
10244297001	**BSB-GW-01-100113**	ASTM D516	WETA/16377		
10244297002	**BSB-GW-02-100113**	ASTM D516	WETA/16377		
10244297003	**BSB-GW-03-100113**	ASTM D516	WETA/16377		
10244297004	**BSB-GW-04-100113**	ASTM D516	WETA/16377		
10244297001	**BSB-GW-01-100113**	SM 4500-Cl E	WETA/16315		
10244297002	**BSB-GW-02-100113**	SM 4500-Cl E	WETA/16315		
10244297003	**BSB-GW-03-100113**	SM 4500-Cl E	WETA/16315		
10244297004	**BSB-GW-04-100113**	SM 4500-Cl E	WETA/16315		
10244297001	**BSB-GW-01-100113**	SM 4500-CN-E	WETA/16385		
10244297002	**BSB-GW-02-100113**	SM 4500-CN-E	WETA/16385		
10244297003	**BSB-GW-03-100113**	SM 4500-CN-E	WETA/16385		
10244297004	**BSB-GW-04-100113**	SM 4500-CN-E	WETA/16385		

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SHORT HOLD

CS 10/3

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10244297

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Page: of

Section A
Required Client Information:

Company: Pioneer Technical
Address: 40 Spanish Peak Dr.
Bozeman, MT 59718
Email To: jemmert@pioneer-techinical.com
Phone: 406-782-5177 Fax:
Requested Due Date/TAT: Standard

Section B
Required Project Information:

Report To: J.D. Emmert
Copy To:
Purchase Order No.:
Project Name: OLD LANDFILL
Project Number:

Section C
Invoice Information:

Attention: Gary Keeler (406-497-6515)
Company Name: BSB Public Works Dept
Address: 126 W. Granite Butte,MT 59701
Pace Quote Reference:
Pace Project Manager: Julie Thieschafer
Pace Profile #: 21705

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: MT

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	↓Analysis Test↓	Cyanide	Nitrate+Nitrite	COD	pH, SC, SO4 and Chloride	8260	Dissolved Metals*							Residual Chlorine (Y/N)	Pace Project No./Lab I.D.
	Requested Analysis Filtered (Y/N)																	Y/N	N	N	N	N	N	Y								
1	BSB-GW-01-100113		G	10/1/13	1155				7	X	X	X	X	X					X	X	X	X	X	X								001
2	BSB-GW-02-100113		G	10/1/13	1310				6	X	X		X	X					X	X	X	X	X									002
3	BSB-GW-03-100113		G	10/1/13	1605				6	X	X		X	X					X	X	X	X	X									003
4	BSB-GW-04-100113		G	10/1/13	1530				5	X	X								X	X	X	X	X									004
5	BSB-GW-07-100113		G	10/1/13	1530				3				X										X									005
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
*Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni, Se, V, Zn	DJ Renz / PTS	10/2/13	1400	CS / Pace	10-3-13	938	29	Y	Y	Y

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DJ Renz
SIGNATURE of SAMPLER: DJ
DATE Signed (MM/DD/YY): 10/2/13

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 19Sep2013 Page 1 of 1
	Document No.: **F-MN-L-213-rev.07**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: pioneertech

Project #: WO# : 10244297

10244297

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other:

Tracking Number: 575341922098

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other: **Temp Blank?** ☒ Yes ☐ No

Thermom. Used: ☐ 80512447 ☐ 72337080 ☐ B88A912167504 ☒ B88A9132521491 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): ~~[illegible]~~ CD 10/3 3.1 **Cooler Temp Corrected (°C):** 2.9 **Biological Tissue Frozen?** ☐ Yes ☐ No

Temp should be above freezing to 6°C **Correction Factor:** -0.2 **Date and Initials of Person Examining Contents:** 10-3-13 CD

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☒ Yes	☐ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☒ No	☐ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked? Noncompliances are noted in 13.	☒ Yes	☐ No	☐ N/A	13. ☒ HNO_3 1-1 ☒ H_2SO_4 1-1 ☒ NaOH 1-1 ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>12)	☒ Yes	☐ No	☐ N/A	Sample # GW01, 02, 03, 04
Exceptions: ~~VOA~~, Coliform, TOC, Oil and Grease, WI-DRO (water)	☒ Yes	☐ No		Initial when completed: CD Lot # of added preservative:
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	14.
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present?	☒ Yes	☐ No	☐ N/A	2TB
Pace Trip Blank Lot # (if purchased): 091613-01				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: Date/Time:

Comments/Resolution:

Project Manager Review: **Date:** 10/3/13

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

nent Control Number GAO-DT-100213 STO

Page 1 of 2

Job(s) Location(s) Clark wells **Date:** 10/2/13

Name of AA or project oversight:

SIMOPS or Multi-Crew Activity ☐ Yes ☒ No If yes, describe. SIMOPS

Has the SIMOPS work plan been communicated to all workforce? ☐ Yes ☒ No

Name of SIMOPS PIC: **Company:**

Does the work activity require an MoC?	☐ Yes	☒ No
If yes, has it been authorized by BP management for start-up?	☐ Yes	☐ No (If No, Stop Work and consult BP management.)
Does a valid risk-assessed SOP for this job exist?	☒ Yes	☐ No
If yes, have person(s) performing work been trained in that procedure?	☒ Yes	☐ No (If No, conduct TSEA.)

List any safety discussion topics covered: Allergies

List all jobs to be performed today (Scope of work for day): Sample clark 1 4 2 wells

Identify if there are any permitted activities and document the permit number: None

Does each job and task have a valid, associated risk assessment assigned to each listed job above?	☒ Yes	☐ No
Have job and task risk assessments been validated on site?	☒ Yes	☐ No
Have newly identified risks been documented in the TSEA?	☐ Yes	☒ No
Has a member of the workforce conducting each task participated in the Risk Assessment for that task?	☒ Yes	☐ No
Have all members of the workforce confirmed understanding of the work scope, hazards, risk controls and mitigation?	☒ Yes	☐ No
Was a competent person involved in this or any other risk assessment pertaining to these tasks?	☒ Yes	☐ No
Has everyone reviewed the current Emergency Response Plan?	☒ Yes	☐ No
Have equipment checks been completed, documented and reviewed?	☐ Yes	☐ No ☒ N/A

(Do not proceed unless the answer to all of the above questions is Yes or N/A)

Will any conditions change the muster points for today? ☐ Yes ☐ No If yes, describe and discuss with crew:

Post Daily Review:

Best practice/activity(s) observed: ☐ Yes ☐ No (If Yes, describe them)

Were there any Incidents or First Aid Reports for the day? ☐ Yes ☐ No (If Yes, name them)

Were there any 'Stop Work' interventions? ☐ Yes ☐ No (If Yes, describe them)

Area for improvement Practice/Activity(s) Observed: ☐ Yes ☐ No (If Yes, name them)

DAILY TOOL K MEETING RECORD

D ment Control Number________________

Signature Page

I know the hazards:

By signing here, you are stating the following:

1. You have been involved in the Task Safety Environmental Analysis and understand the hazards and risk control actions associated with each task you are about to perform.
2. You understand the permit to work requirements applicable to the work you are about to perform (if it includes permitted activities).
3. You are aware that no tasks or work (that is not risk-assessed) is to be performed.
4. You also are aware of your obligation to **'Stop Work'** *(See Stop Work Section).*

I arrived and departed fit for duty:

5. You are physically and mentally fit for duty.
6. You are not under the influence of any type of medication, drugs or alcohol that could affect your ability to work safely.
7. You are aware of your responsibility to bring any illness, injury (regardless of where or when it occurred) or fatigue issue you may have to the attention of the Work Crew Leader.
8. You signed out uninjured unless you have otherwise informed the Work Crew Leader.

SIMOPS NOTE:
SIGNATURES ARE REQUIRED BY ALL PERSONS INVOLVED IN A WORK TASK OR WHO MAY BECOME AFFECTED BY A SIMOPS SITUATION.

Individual Name/Company Name/Signature	Initials & Sign in time	Initials & Sign out Time
DIRenz / PTB / DIR	[✓ In & Fit] 9:45	[✓ Out & Fit] 1515
Cole Dallaserra / PTS / Cole Dallaserra	[✓ In & Fit] 9:45	[✓ Out & Fit] 1515
	In & Fit	Out & Fit
	In & Fit	Out & Fit
	In & Fit	Out & Fit
	In & Fit	Out & Fit
	In & Fit	Out & Fit
	In & Fit	Out & Fit
	In & Fit	Out & Fit
	In & Fit	Out & Fit

At the conclusion of the day, I certify that the job site is being left in a safe condition and there were no reports of injury or first aid.

☐ Yes ☐ No

Signature of Work Crew Leader: ________________________________

(If above answer is No, inform the AA or PO, when applicable.)

I will STOP the job any time anyone is concerned or uncertain about safety.

I will STOP the job if anyone identifies a hazard or additional mitigation not recorded on the TSEA.

I will be alert to any changes in personnel, conditions at the work site or hazards not covered by the original TSEA.

If it is necessary to **STOP THE JOB**, I will reassess the task, hazards and mitigations; and then amend the TSEA as needed.

STOP

Names of site visitors not involved in the work activities:

____

____

____

____

____

____

Definitions: **Project** – A planned set of interrelated jobs to be executed over a period of time. **Job** – A general activity, including several different tasks that occur when working on a project. **Task** – One of several potential specific actions that occur as part of the process to complete a job. **Hazard** – The potential for an uncontrolled release of, or unwanted contact with, a biological or energy source.

Project: Clark 1 9 = Wells

Date: 10/2/13

Work Force Members: C. Dallaserra, D. Renz

General Description:

Start of Shift Information

Time: 1000

Current Temperature: 36

Current Wind Speed: 0

Equivalent Chill Temperature (Table 1): 36

1) Is the Current Actual Temperature equal to or below 45°F (7.2°C) ?	[✓ Yes] No	Continue Line 3 Continue
2) Is the Forecasted Actual Temperature equal to or below 45°F (7.2°C) ?	Yes No	Continue to Line 6 Continue to Line 6
3) Does the current work activities require the work force to be exposed to temperatures of 45°F (7.2°C) or less for a time period greater than 15 minutes?	[✓ Yes] No	Continue Continue to Line 6
4) Does the current work activities require the work force to be exposed to conditions where the workers could become immersed in water or work clothing could become wet?	Yes [✓ No]	Continue to Line 5 Continue to Line 7
5) Evaluate work task to provide work force adequate protection to prevent hypothermia or frostbite.		Continue to line 7

6) Monitor work activities and weather conditions on a periodic basis. **If work force initiates activities or weather conditions exist that meet the condition set forth in Lines 1 through 4 throughout the work schedule a reevaluation of the weather conditions is required.**

7) Complete hourly monitoring of air temperatures, wind speed, worker conditions and Equivalent Chill Temperatures on the back of this form. **The work force leader will be responsible for evaluating weather conditions and implementing the appropriate action.**

Table 1: Temperature and Wind Speeds

Estimated Wind Speed (in mph)	Actual Temperature Reading (F°) Under Calm Conditions											
	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
	Equivalent Chill Temperature (F°)											
Calm	50	40	30	20	10	0	-10	-20	-30	-40	-50	-60
5	48	37	27	16	6	-5	-15	-26	-36	-47	-57	-68
10	40	28	16	4	-9	-24	-33	-46	-58	-70	[illegible]	[illegible]
15	36	22	9	-5	-18	-32	-45	-58	-72	[illegible]	[illegible]	[illegible]
20	32	18	4	-10	-25	-39	-53	-67	[illegible]	[illegible]	[illegible]	[illegible]
25	30	16	0	-15	-29	-44	-59	-74	[illegible]	[illegible]	[illegible]	[illegible]
30	28	13	-2	-18	-33	-48	-63	-79	[illegible]	[illegible]	[illegible]	[illegible]
35	27	11	-4	-20	-35	-51	-67	-82	[illegible]	[illegible]	[illegible]	[illegible]
40	26	10	-6	-21	-37	-53	-69	-85	[illegible]	[illegible]	[illegible]	[illegible]
(Wind speeds greater than 40 mph have little additional effect)t	LITTLE DANGER In < hr with dry skin. Maximum danger of false sense of security				INCREASING DANGER Danger from freezing of exposed Flesh within one minute.				[illegible]			

Trench foot and immersion foot may occur at any point on this chart.

Source: American Conference of Governmental Industrial Hygienists, Threshold Limit Values and Biological Exposure Indices for 1987-1988, Cincinnati, Ohio, 1987

Table 2: Cold Stress Contributors

Evaluate the work force members for potential Cold Stress Contributors. Examples of Cold Stress Contributors are provided below:

- Heart disease
- Asthma/bronchitis
- Diabetes
- Vibration/white finger disease
- Previous cold injuries
- Constricting garments
- Local pressure
- Cramped position
- Body type
- Dehydration
- Amount of subcutaneous body fat
- Caloric intake
- Alcohol
- Caffeine
- Nicotine

Table 3: 20°F to 10°F Requirements

1) Provide work force nearby warm shelter (vehicles, tents, trailers) and work force leader shall monitor work force for regular usage of shelter. The frequent use of shelters depends on the severity of the environmental exposure.

2) Monitor work force members for the onsets of heavy shivering, frostnip, the feeling of excessive fatigue, drowsiness, irritability or euphoria require the immediately return to the shelter. When entering the heated shelter, the outer layer of clothing shall be removed and the remainder of the clothing loosened to permit sweat evaporation. When necessary, a change of dry work clothing shall be provided to prevent workers from returning to their work with wet clothing.

3) Dehydration, or the loss of body fluids, occurs insidiously in the cold environment. It might increase the susceptibility of the worker to cold injury due to a sufficient change in blood flow to the extremities. Workers shall remain hydrated and shall have caloric intake during the day. The intake of coffee and other caffeinated drinks shall be limited due to a diuretic and circulatory effect.

4) If workers are handling fluids (i.e., gasoline, alcohol or cleaning fluids), precautions shall be taken to avoid soaking of the clothing and skin contact with the fluids.

5) Evaluate work force for conditions in Table 2.

Table 4: 10°F to -10°F Requirements

1) The worker shall be under constant protective observation using the buddy system or by supervision.

2) The work rate shall not be so high as to cause heavy sweating that will result in wet clothing. If heavy work is required, rest periods shall be taken in heated shelters and the opportunity for changing into dry clothing shall be provided.

3) Workers not acclimated shall not be required to work full time in cold weather in the first few days until they become accustomed to the working conditions. They are required to wear protective clothing.

4) Work shall be arranged in such a way that sitting still or standing still for long periods is minimized. Contact with metal (i.e., unprotected metal chair seats) shall be avoided.

5) Evaluate work force for conditions in Tables 2 and 3.

Date:

			ECT (Table 1)					
Time	45°F or Less	Wind Speed (MPH)	45°F or 30°F	30°F or 20°F	20°F to 10°F	10°F to -10°F	-10°F or Less	Action Required
1100	40	0	✓	▨	▨	▨	▨	Complete hourly monitoring of air temperatures, wind speed, and worker conditions.
			▨		▨	▨	▨	Evaluate work force for condition in Table 2.
			▨	▨		▨	▨	Evaluate work force for condition in Table 3.
			▨	▨	▨		▨	Evaluate work force for condition in Table 4.
			▨	▨	▨	▨		Obtain Pioneer Project Leader and Safety Director Approval to continue work activity.
1200	43	0	✓	▨	▨	▨	▨	Complete hourly monitoring of air temperatures, wind speed, and worker conditions.
			▨		▨	▨	▨	Evaluate work force for condition in Table 2.
			▨	▨		▨	▨	Evaluate work force for condition in Table 3.
			▨	▨	▨		▨	Evaluate work force for condition in Table 4.
			▨	▨	▨	▨		Obtain Pioneer Project Leader and Safety Director Approval to continue work activity.
				▨	▨	▨	▨	Complete hourly monitoring of air temperatures, wind speed, and worker conditions.
			▨		▨	▨	▨	Evaluate work force for condition in Table 2.
			▨	▨		▨	▨	Evaluate work force for condition in Table 3.
			▨	▨	▨		▨	Evaluate work force for condition in Table 4.
			▨	▨	▨	▨		Obtain Pioneer Project Leader and Safety Director Approval to continue work activity.
				▨	▨	▨	▨	Complete hourly monitoring of air temperatures, wind speed, and worker conditions.
			▨		▨	▨	▨	Evaluate work force for condition in Table 2.
			▨	▨		▨	▨	Evaluate work force for condition in Table 3.
			▨	▨	▨		▨	Evaluate work force for condition in Table 4.
			▨	▨	▨	▨		Obtain Pioneer Project Leader and Safety Director Approval to continue work activity.
				▨	▨	▨	▨	Complete hourly monitoring of air temperatures, wind speed, and worker conditions.
			▨		▨	▨	▨	Evaluate work force for condition in Table 2.
			▨	▨		▨	▨	Evaluate work force for condition in Table 3.
			▨	▨	▨		▨	Evaluate work force for condition in Table 4.
			▨	▨	▨	▨		Obtain Pioneer Project Leader and Safety Director Approval to continue work activity.
				▨	▨	▨	▨	Complete hourly monitoring of air temperatures, wind speed, and worker conditions.
			▨		▨	▨	▨	Evaluate work force for condition in Table 2.
			▨	▨		▨	▨	Evaluate work force for condition in Table 3.
			▨	▨	▨		▨	Evaluate work force for condition in Table 4.
			▨	▨	▨	▨		Obtain Pioneer Project Leader and Safety Director Approval to continue work activity.
				▨	▨	▨	▨	Complete hourly monitoring of air temperatures, wind speed, and worker conditions.
			▨		▨	▨	▨	Evaluate work force for condition in Table 2.
			▨	▨		▨	▨	Evaluate work force for condition in Table 3.
			▨	▨	▨		▨	Evaluate work force for condition in Table 4.
			▨	▨	▨	▨		Obtain Pioneer Project Leader and Safety Director Approval to continue work activity.
				▨	▨	▨	▨	Complete hourly monitoring of air temperatures, wind speed, and worker conditions.
			▨		▨	▨	▨	Evaluate work force for condition in Table 2.
			▨	▨		▨	▨	Evaluate work force for condition in Table 3.
			▨	▨	▨		▨	Evaluate work force for condition in Table 4.
			▨	▨	▨	▨		Obtain Pioneer Project Leader and Safety Director Approval to continue work activity.

Action Taken:

Pace Analytical
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: of

Section A
Required Client Information:

Company: Pioneer Technical
Address: 40 Spanish Peak Dr.
Bozeman, MT 59718
Email To: jemmert@pioneer-techinical.com
Phone: 406-782-5177
Fax:
Requested Due Date/TAT: **Standard**

Section B
Required Project Information:

Report To: J.D. Emmert
Copy To:
Purchase Order No.:
Project Name: OLD LANDFILL
Project Number:

Section C
Invoice Information:

Attention: Gary Keeler (406-497-6515)
Company Name: BSB Public Works Dept
Address: 126 W. Granite Butte,MT 59701
Pace Quote Reference:
Pace Project Manager: Julie Thieschafer
Pace Profile #: 21705

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MT

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	Cyanide	Nitrate+Nitrite	COD	pH, SC, SO4 and Chloride	8260	Dissolved Metals*							Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
																		Requested Analysis Filtered (Y/N)	N	N	N	N	N	Y								
1	BSB-GW-01-100113		G	10/1/13	1155				7	X	X	X	X	X					X	X	X	X	X	X								
2	BSB-GW-02-100113		G	10/1/13	1310				6	X	X		X	X					X	X	X	X	X									
3	BSB-GW-03-100113		G	10/1/13	1605				6	X	X		X	X					X	X	X	X	X									
4	BSB-GW-04-100113		G	10/1/13	1530				5	X	X								X	X	X	X	X									
5	BSB-GW-07-100113		G	10/1/13	1530				3				X										X									
6																																
7																																
8																																
9																																
10																																
11																																
12																																

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME
*Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni, Se, V, Zn	DJ Renz / PTS	10/2/13	1400

Ref: 1003-66105 JMT Date: 18Sep13 SHIPPING: 0.00
Dep: 1003- Wgt: 8.20 LBS SPECIAL: 0.00
HANDLING: 0.00
DV: 0.00 TOTAL: 0.00
Svcs: STANDARD OVERNIGHT
TRCK: 5753 4192 2098

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DJ Renz
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY): 10/2/13

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

bp rm

Laboratory Management Program LaMP Chain of Custody Record

Page _____ of _____

BP Site Node Path: ____________

Req Due Date (mm/dd/yy): ____________ **Rush TAT:** Yes ____ No ____

BP Facility No: Old Landfill/Clark Tailings

Lab Work Order Number: ____________

Lab Name:	Facility Address:	Consultant/Contractor: Pioneer Technical Services
Lab Address:	City, State, ZIP Code:	Consultant/Contractor Project No:
Lab PM:	Lead Regulatory Agency:	Address: 40 Spanish Peak Drive, Suire 101 Bozeman, MT 59718
Lab Phone:	California Global ID No.:	Consultant/Contractor PM: J.D. Emmert
Lab Shipping Accnt:	Enfos Proposal No:	Phone: 406-782-5177 Email: jemmert@pioneer-technical.com
Lab Bottle Order No:	Accounting Mode: Provision ____ OOC-BU ____ OOC-RM ____	Email EDD To: and to lab.enfosdoc@bp.com
Other Info:	Stage: Activity:	Invoice To: BP x Contractor ____

BP Project Manager (PM):

BP PM Phone:

BP PM Email:

Report Type & QC Level

Standard x

Full Data Package ____

Lab No.	**Sample Description**	**Date**	**Time**	**Matrix**				**No. Containers / Preservative**							**Requested Analyses**										**Comments**
				Soil / Solid	Water / Liquid	Air / Vapor	Is this location a well?	Total Number of Container	Unpreserved	H2SO4	HNO3 (filtered)	HCl	Methanol		Dissolved Metals	(Sb, As, Ba, Be, Cd, Cr,	Co, Cu, Fe, Pb, Ni, Se,	V, Zn)	pH, SC, Chloride, SO4						Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.
	[illegible]	[illegible]	[illegible]		x			2	1		1				x				x						
	[illegible]	[illegible]	[illegible]		x			2	1		1				x				x						
	[illegible]	[illegible]	[illegible]		X			2	1		1				X				X						
	[illegible]	[illegible]	[illegible]		X			2	1		1				X				X						

Sampler's Name: DJ Renz

Sampler's Company: Pioneer Technical Services

Shipment Method: FedEx Ship Date: [illegible]

Shipment Tracking No: [illegible]

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
[illegible] / PT	[illegible]				

```
Ref: 1003-66106 JMT     Date: 18Sep13            SHIPPING:    0.00
Dep: 1003-              Wgt: 20.00 LBS           SPECIAL:     0.00
                                                 HANDLING:    0.00
                        DV:              0.00    TOTAL:       0.00

                   Svcs: STANDARD OVERNIGHT
                      TRCK: 5753 4192 2320
```

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: ________ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

Laboratory Management Program LaMP Chain of Custody Record

Page _____ of _____

BP Site Node Path: ____________________

Req Due Date (mm/dd/yy): ____________________ **Rush TAT:** Yes ____ No ____

BP Facility No: Old Landfill/Clark Tailings

Lab Work Order Number: ____________________

ab Name:	Facility Address:	Consultant/Contractor: Pioneer Technical Services
ab Address:	City, State, ZIP Code:	Consultant/Contractor Project No:
ab PM:	Lead Regulatory Agency:	Address: 40 Spanish Peak Drive, Suire 101 Bozeman, MT 59718
ab Phone:	California Global ID No.:	Consultant/Contractor PM: J.D. Emmert
ab Shipping Accnt:	Enfos Proposal No:	Phone: 406-782-5177 Email: jemmert@pioneer-technical.com
ab Bottle Order No:	Accounting Mode: Provision ____ OOC-BU ____ OOC-RM ____	Email EDD To: and to lab.enfosdoc@bp.com
ther Info:	Stage: Activity:	Invoice To: BP x Contractor ____
P Project Manager (PM):		
P PM Phone:		
P PM Email:		

Report Type & QC Level

Standard x

Full Data Package ____

ab No.	Sample Description	Date	Time	Matrix: Soil / Solid	Water / Liquid	Air / Vapor	Is this location a well?	No. Containers / Preservative: Total Number of Container	Unpreserved	H2SO4	HNO3 (filtered)	HCl	Methanol		Requested Analyses: Dissolved Metals	(Sb, As, Ba, Be, Cd, Cr,	Co, Cu, Fe, Pb, Ni. Se,	V, Zn)	pH, SC, Chloride, SO4						Comments Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.
	BSB-GW-06-100213	10/2/13	1148		x			2	1		1				x				x						
	BSB-GW-05-100213	10/2/13	1038		x			2	1		1				x				x						
	BSB-GW-08-100213	10/2/13	1150		X			2	1		1				X				X						
	BSB-GW-09-100213	10/2/13	1300		X			2	1		1				X				X						

ampler's Name: DJ Renz

ampler's Company: Pioneer Technical Services

ipment Method: FEDEX Ship Date: 10/2/13

ipment Tracking No: 5753 4192 2320

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
DJ Renz / PTS	10/2/13	1400			

pecial Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: __________°F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

PIONEER
TECHNICAL SERVICES, INC.

County Silver Bow
Facility & # 20

Closure
Finan Assur
GW Corr Meas
[✓ GW Monitoring]
GW Reports
Inspections
Other:

Landfarm
Liner
Methane
O & M
Run-on

December 2, 2014

Mr. John Collins
Montana DEQ/Solid Waste Program
P.O. Box 200901
Helena, Montana 59620-0901

RE: Old Butte-Silver Bow County Landfill/Clark Tailings

Dear John:

Enclosed are results from the Old Butte-Silver Bow County Landfill/Clark Tailings September 2014 semi-annual groundwater monitoring event. The following have been included for your information:

- September 2014 sampling summary;
- Table 1 analytical data summary;
- Table oldlfctsept14 (non-parametric comparison of wells);
- Groundwater field parameters collected in the field;
- Copy of field notes;
- Trend graphs of detected compounds;
- Groundwater potentiometric surface map for September 2014; and
- Analytical data from Pace Laboratories in Minneapolis, Minnesota.

The calculated Confidence Level of 97.6 % was found using the formula n/(n+k), where n is the total number of background samples collected and k is the number of future sampling events (Section 4.2.1: Non-Parametric Prediction Intervals, Pages 61-63 and Table A-7, Appendix A; Statistical Analysis of Ground-Water Monitoring Data at RCRA Facilities; Addendum to Interim Final Guidance; and Office of Solid Waste Permits and State Programs Division, U.S. EPA, July 1992).

The groundwater velocity was calculated using Darcy's Law and the equation for the seepage velocity. The average groundwater velocity for September 2014 sampling event was 0.20 feet per day (ft/day). The hydraulic conductivity value used to obtain the groundwater velocity was obtained from the *Corrective Measures Assessment Report* (Pioneer, April 2009) and from the March 2009 pumping data.

RECEIVED
DEC 04 2014
DEPT. OF ENVIRO. QUALITY
WASTE & UNDERGROUND TANK
MANAGEMENT BUREAU

PIONEER
TECHNICAL SERVICES, INC.

December 2, 2014

Mr. John Collins
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WASTE & UNDERGROUND TANK
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HEADQUARTERS: PO BOX 3445 • BUTTE, MT 59702 | PH: 406.782.5177 • FX: 406.782.5866 | WWW.PIONEER-TECHNICAL.COM
ANACONDA • BILLINGS • BOZEMAN • HELENA • MISSOULA • EVANSTON, WY • KELLOGG, ID

Sincerely,

Brad Hollam

Brad Hollamon
Senior Technician

Encl.
cc. Dave Schultz, BSB Landfill Manager
Mitch Mihailovich, Pioneer
Loren Burmeister, Atlantic Richfield (electronic copy)
Cord Harris, Atlantic Richfield (w/o enc. – email)
Terry Moore, Atlantic Richfield (w/o enc. – email)
Ann Baranowski, Atlantic Richfield (Central Files 70.04.25.16 – electronic copy)

OLD SILVER BOW LANDFILL
SEPTEMBER 2014 GROUNDWATER MONITORING

The September 2014 sampling event at the Old Butte-Silver Bow Landfill included sampling in accordance with the modified assessment-monitoring program. Table 1, attached, summarizes the analytical results. The discussion below compares these data to previous results and to current Maximum Contaminant Levels (MCLs) and Montana Human Health Standards (HHSs).

Well MBMG-2 (up gradient):

In accordance with the modified assessment-monitoring program, semi-volatiles, chlorinated acids, pesticides and Mercury were not collected in the well during this sampling event. Four volatile compounds were detected below the Reporting Limit during this sampling event, Carbon Disulfide at (0.20 J ug/L), Chloroform at (0.49 J ug/L), m&p-Xylene at (0.035 J ug/L) and o-Xylene at (0.025 J ug/L). Metals detected below the maximum background concentrations are; As (.0012 mg/L), Ba (0.120 mg/L), Cr (0.00031 J mg/L), Cu (0.0010 J mg/L), Ni (0.0018 mg/l), Se (0.00086 mg/l) and V (0.0068 mg/l). There were no metals detected above the maximum background concentrations during this sampling event. Nitrate/nitrite (6.10 mg/L), Chloride (56 mg/l), Cyanide (0.0066 J mg/L), and Sulfate (116 mg/L) were detected at concentrations below the maximum background.

No MCL or HHS exceedences were observed in this well during this sampling event.

Well BSB-A1 (North):

In accordance with the modified assessment-monitoring program, semi-volatile, chlorinated acids, pesticides and a sample for metals analyses were not collected from this well.

There were no volatile compounds detected at levels above maximum baseline or above maximum background in this well during this sampling event.

One inorganic compound, Chloride (21 mg/L) was detected above the maximum baseline concentrations of 20 mg/L.

No MCL or HHS exceedences were observed in this well during this sampling event.

Well BSB-A5 (Northeast Well):

In accordance with the modified assessment-monitoring program, semi-volatile, chlorinated acids, pesticides and a sample for metals analyses were not collected from this well.

One volatile compound cis-1,2-Dichloroethene (1.4 μg/L) was detected at levels above maximum background in this well during this sampling event.

Sulfate detected at 494 mg/L exceeds maximum background concentration.

Sulfate also exceeds the secondary USEPA MCL of 250 mg/L.

Well BSB-A6-R (Central Well):

Well BSB-A6-R is the replacement well for BSB-A6, removed during the construction of Timber Butte Youth Park. Twelve volatile organic compounds (VOC's) were detected in this well; five of the twelve were detected at levels above the quantification limit. The twelve volatile organic compounds were as follows:

- Benzene (0.68 J ug/L);
- Dichlorodifluoromethane (1.70 ug/L); exceeds maximum background.
- Cis-1,2-DCE (2.10 ug/L); exceeds maximum background.
- 1,1-Dichloroethane (1.90 ug/L); exceeds maximum background.
- 1,2-Dichloropropane (0.54 J ug/L);
- Ethylbenzene (0.47 J ug/L);
- Tetrachloroethene (0.28 J ug/L);
- Toluene (0.19 J ug/L);
- Trichloroethene (0.25 J ug/L);
- Vinyl Chloride (1.7 ug/L); exceeds maximum background.
- m&p -Xylene (1.20 J ug/L);
- o-Xylene(1.10 ug/L);

Vinyl Chloride exceeds the MDEQ-7 HHS standard of 0.20 ug/L.

In accordance with the modified assessment-monitoring program, semi-volatile, chlorinated acids, pesticides and a sample for metals analyses were not collected from this well.
Sulfate (1160 mg/L) exceeds maximum background concentrations. Sulfate exceeds the secondary USEPA MCL of 250 mg/L.
COD (287 mg/L), Cyanide (0.019 mg/L) and Chloride (71 mg/L) exceeded maximum background concentrations.

Well CLK-1 (Clark Tailings East Well):

In accordance with the modified assessment-monitoring program, no samples for organic analyses were collected from this well. Metals detected above maximum background but below maximum baseline are; arsenic (0.12 mg/L); cadmium (0.013 mg/L); cobalt (0.045 J mg/L), iron (16.1 mg/L), nickel (0.036 mg/L) and zinc (53.4 mg/L). Arsenic, cadmium, iron and zinc exceed US EPA MCL or Montana HHS standards.
Sulfate was detected at a concentration of 908 mg/L, which exceeds the maximum background and the secondary MCL for this compound.

Well CLK-2 (Clark Tailings North Well):

In accordance with the modified assessment-monitoring program, no samples for organic analyses were collected from this well. Zinc (0.720 mg/L) was detected above maximum background but below maximum baseline. Cadmium (0.0013 mg/L) and Nickel (0.047 mg/L) were detected above both Maximum background and maximum base line.

Sulfate was detected at a concentration of 728 mg/L, which exceeds the maximum background and the secondary MCL for this compound.
Chloride (76 mg/L) was also detected above maximum background during this sampling event.

Conclusion:

The September 2014 sampling event at the Old Butte-Silver Bow Landfill included sampling according to the modified assessment-monitoring program (see Table 1 for analytical data). The results for metals, inorganics, and organic contaminants obtained from this sampling event were comparable to previous results.

SAMPLE NUMBER	BSB-GW-O1	BSBV-08	BSB-GW-O9	GW PROTECTION STANDARDS	
WELL	MBMG-2	BSUPE	Field Blank	USEPA	MONTANA
ANALYTE (units):			Trip Blank	MCL*	HHS
DISSOLVED METALS (mg/L)					
Antimony	< 0.0005	0.0005	< 0.0005	0.006	0.014
Arsenic	0.0012	0.0009	< 0.0005	0.05	0.01
Barium	0.12	0.018	< 0.0003	2	2
Beryllium	< 0.00020	0.0002	< 0.0002	0.004	0.004
Cadmium	< 0.00008	0.0014	< 0.00008	0.005	0.005
Chromium	(Pace 0.00031 J)< 0.0005	0.00077	(Pace 0.00027 J)< 0.0005	0.1	0.1
Cobalt	< 0.0005	0.00068	< 0.0005	---	---
Copper	(Pace 0.0010 J)< 0.0010	0.0043	(Pace 0.00036 J)< 0.001	1.3 (a)	1.3
Iron	< 0.05	0.050	< 0.050	0.3(s)	0.3
Lead	< 0.00010	0.00010	< 0.0001	0.015 (a)	0.015
Mercury	NR	NR	NR	0.002	0.002
Nickel	0.0018	0.0460	< 0.0005	0.1	0.1
Selenium	0.00086	0.0005	< 0.0005	0.05	0.05
Silver	NR	NR	NR	0.1	0.1
Thallium	NR	NR	NR	0.002	0.002
Tin	NR	NR	NR		
Vanadium	0.0068	0.0021	< 0.001	---	---
Zinc	< 0.0050	0.800	< 0.005	5	2
INORGANICS (mg/L)					
Chloride	56	75	(Pace 0.64 J)< 1.0	250	---
COD	< 50.0	NR	SA	---	---
Conductivity (umhos/cm)	8.2	1910	1.6	---	---
Cyanide	(Pace 0.0066 J)< 0.010	NR	NR	---	0.2
Nitrate\Nitrite - N	6.1	NR	NR	10	10
pH	7.5	6.4	5.6		
Sulfate	116	681	< 2.5	250	---
Sulfide	NR	NR	NR		
EPA METHOD 8260 (ug/L)					
Acetone	< 20.0	SA	< 20.0	---	---
Benzene	< 1.0	SA	< 1.0	5	5
Carbon Disulfide	(Pace 0..20 J)< 1.0	SA	< 1.0	---	---
Chloroethane	< 1.0	SA	< 1.0	---	---
Chloroform	(Pace 0.49 J)< 1.0	SA	< 1.0	---	70
Chlormethane	< 4.0	SA	< 4.0	---	---
1,4-Dichlorobenzene	< 1.0	SA	< 1.0	75	75
Dichlorodiflouromethane	< 1.0	SA	< 1.0	---	1000
1,1-Dichloroethane	< 1.0	SA	< 1.0	---	---
1,2-Dichloroethane	< 1.0	SA	< 1.0	5	4
cis-1,2-Dichloroethene	< 1.0	SA	< 1.0	70	70
trans-1,2-Dichloroethene	< 1.0	SA	< 1.0	100	100
Ethylbenzene	< 1.0	(Pace 0.21 SA	< 1.0		
1,2-Dichloropropane	< 4.0	SA	< 4.0	5	5
4-Isopropyltoluene	NR	SA	NR	---	---
Methylene Chloride	< 4.0	SA	< 4.0	5	30
Naphthalene	NR	SA	NR	---	100
Tetrachloroethene	< 1.0	SA	< 1.0	5	5
Trichloroethene	< 0.4	SA	< 0.4	5	5
1,2,4-Trimethylbenzene	NR	SA	NR	---	---
Vinyl Chloride	< 0.4	SA	< 0.4	2	0.2
EPA METHOD 8270 (ug/L)					
bis(2-ethylhexyl)Phthalate	SA	SA	SA	6	6
EPA METHOD 8151 (ug/L)					
Picloram	SA	SA	SA		
Dicamba	SA	SA	SA		
2,4,5-TP (Silvex)	SA	SA	SA		
2,4-D	SA	SA	SA		
EPA METHOD 8081 (ug/L)	SA	SA	SA		
EPA METHOD 8082 (ug/L)	SA	SA	SA		

* MCL definitions: a = action level, not an MCL; s = secondary MCL (aesthetics)
NA = Not enough sample available for analysis
NR = Analysis Not Requested
ND = Analyte Not Detected
J = Estimated Quantity. Anlyte present, but less than the practical quantitation limit (PQL).
NS= Sample Not Collected (Dry Well-BSB-A5)
SA = Sample Not Taken

TABLE I: ANALYTICAL DATA FOR GROUNDWATER SAMPLES, OLD SILVER BOW COUNTY LANDFILL
DATE SAMPLED: September 08, 2014

SAMPLE NUMBER	BSB-GW-O1	BSB-GW-O2	BSB-GW-O3	BSB-GW-O4	BSB-GW-O5	BSB-GW-O6	BSB-GW-07	BSB-GW-08	BSB-GW-O9	GW PROTECTION STANDARDS	
WELL ANALYTE (units):	MBMG-2	BSB-A1	BSB-A5	BSB-A6-R	CLK-1	CLK-2	BSB-A6R DUPE	CLK-2 DUPE	Field Blank Trip Blank	USEPA MCL*	MONTANA HHS
DISSOLVED METALS (mg/L)											
Antimony	< 0.0005	SA	SA	SA	< 0.0005	< 0.0005	SA	< 0.0005	< 0.0005	0.006	0.014
Arsenic	0.0012	SA	SA	SA	0.120	0.0010	SA	0.0009	< 0.0005	0.05	0.01
Barium	0.12	SA	SA	SA	0.023	0.019	SA	0.018	< 0.0003	2	2
Beryllium	< 0.00020	SA	SA	SA	0.00025	< 0.0002	SA	< 0.0002	< 0.0002	0.004	0.004
Cadmium	< 0.00008	SA	SA	SA	0.013	0.00130	SA	0.0014	< 0.00008	0.005	0.005
Chromium	(Pace 0.00031 J)< 0.0005	SA	SA	SA	< 0.0005	(Pace 0.00029 J)< 0.0005	SA	0.00077	(Pace 0.00027 J)< 0.0005	0.1	0.1
Cobalt	< 0.0005	SA	SA	SA	0.045	(Pace 0.00038 J)< 0.0005	SA	0.00068	< 0.0005	- - -	- - -
Copper	(Pace 0.0010 J)< 0.0010	SA	SA	SA	(Pace 0.00054 J)< 0.0010	0.0040	SA	0.0043	(Pace 0.00036 J)< 0.001	1.3 (a)	1.3
Iron	< 0.05	SA	SA	SA	16.1	< 0.050	SA	< 0.050	< 0.050	0.3(s)	0.3
Lead	< 0.00010	SA	SA	SA	< 0.00010	< 0.00010	SA	< 0.00010	< 0.0001	0.015 (a)	0.015
Mercury	NR	SA	SA	SA	NR	NR	SA	NR	NR	0.002	0.002
Nickel	0.0018	SA	SA	SA	0.036	0.0470	SA	0.0460	< 0.0005	0.1	0.1
Selenium	0.00086	SA	SA	SA	< 0.0005	< 0.0005	SA	< 0.0005	< 0.0005	0.05	0.05
Silver	NR	SA	SA	SA	NR	NR	SA	NR	NR	0.1	0.1
Thallium	NR	SA	SA	SA	NR	NR	SA	NR	NR	0.002	0.002
Tin	NR	SA	SA	SA	NR	NR	SA	NR	NR		
Vanadium	0.0068	SA	SA	SA	< 0.001	0.0020	SA	0.0021	< 0.001	- - -	- - -
Zinc	< 0.0050	SA	SA	SA	53.4	0.720	SA	0.800	< 0.005	5	2
INORGANICS (mg/L)											
Chloride	56	21	28	71	30	76	SA	75	(Pace 0.64 J)< 1.0	250	- - -
COD	< 50.0	< 50.0	(Pace 13.7 J)< 50.0	287	NR	NR	SA	NR	SA	- - -	- - -
Conductivity (umhos/cm)	8.2	577	1150	2680	1940	1910	SA	1910	1.6	- - -	- - -
Cyanide	(Pace 0.0066 J)< 0.010	0.010	0.011	0.019	NR	NR	SA	NR	NR	- - -	0.2
Nitrate\Nitrite - N	6.1	0.26	4.4	0.25	NR	NR	SA	NR	NR	10	10
pH	7.5	7.2	5.4	5.9	6.2	6.5	SA	6.4	5.6		
Sulfate	116	81.0	494	1160	908	728	SA	681	< 2.5	250	- - -
Sulfide	NR	NR	NR	NR	NR	NR	SA	NR	NR		
EPA METHOD 8260 (ug/L)											
Acetone	< 20.0	< 20.0	< 20.0	< 20.0	SA	SA	< 20.0	SA	< 20.0	- - -	- - -
Benzene	< 1.0	< 1.0	< 1.0	(Pace 0.68 J)< 1.0	SA	SA	(Pace 0.59 J)< 1.0	SA	< 1.0	5	5
Carbon Disulfide	(Pace 0..20 J)< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	- - -	- - -
Chloroethane	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	- - -	- - -
Chloroform	(Pace 0.49 J)< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	- - -	70
Chlormethane	< 4.0	< 4.0	< 4.0	< 4.0	SA	SA	< 4.0	SA	< 4.0	- - -	- - -
1,4-Dichlorobenzene	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	75	75
Dichlorodiflouromethane	< 1.0	< 1.0	< 1.0	1.7	SA	SA	1.8	SA	< 1.0	- - -	1000
1,1-Dichloroethane	< 1.0	< 1.0	Pace 0.0.18 J)< 1.0	1.9	SA	SA	1.9	SA	< 1.0	- - -	- - -
1,2-Dichloroethane	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	5	4
cis-1,2-Dichloroethene	< 1.0	< 1.0	1.4	2.1	SA	SA	2.2	SA	< 1.0	70	70
trans-1,2-Dichloroethene	< 1.0	< 1.0	< 1.0	< 1.0	SA	SA	< 1.0	SA	< 1.0	100	100
Ethylbenzene	< 1.0	(Pace 0.21 J)< 1.0	(Pace 0.21 J)< 1.0	(Pace 0.47 J)< 1.0	SA	SA	(Pace 0.40 J)< 1.0	SA	< 1.0		
1,2-Dichloropropane	< 4.0	< 4.0	< 4.0	(Pace 0.54 J)< 4.0	SA	SA	(Pace 0.64 J)< 4.0	SA	< 4.0	5	5
4-Isopropyltoluene	NR	NR	NR	NR	SA	SA	NR	SA	NR	- - -	- - -
Methylene Chloride	< 4.0	< 4.0	< 4.0	< 4.0	SA	SA	< 4.0	SA	< 4.0	5	30
Naphthalene	NR	NR	NR	NR	SA	SA	NR	SA	NR	- - -	100
Tetrachloroethene	< 1.0	< 1.0	Pace 0.0.60 J)< 1.0	(Pace 0.28 J)< 1.0	SA	SA	(Pace 0.38 J)< 1.0	SA	< 1.0	5	5
Trichloroethene	< 0.4	< 0.4	Pace 0.0.20 J)< 0.4	(Pace 0.25 J)< 0.4	SA	SA	(Pace 0.25 J)< 0.4	SA	< 0.4	5	5
1,2,4-Trimethylbenzene	NR	NR	NR	NR	SA	SA	NR	SA	NR	- - -	- - -
Vinyl Chloride	< 0.4	< 0.4	< 0.4	1.7	SA	SA	1.4	SA	< 0.4	2	0.2
EPA METHOD 8270 (ug/L)											
bis(2-ethylhexyl)Phthalate	SA	SA	SA	SA	SA	SA	SA	SA	SA	6	6
EPA METHOD 8151 (ug/L)											
Picloram	SA	SA	SA	SA	SA	SA	SA	SA	SA		
Dicamba	SA	SA	SA	SA	SA	SA	SA	SA	SA		
2,4,5-TP (Silvex)	SA	SA	SA	SA	SA	SA	SA	SA	SA		
2,4-D	SA	SA	SA	SA	SA	SA	SA	SA	SA		
EPA METHOD 8081 (ug/L)	SA	SA	SA	SA	SA	SA	SA	SA	SA		
EPA METHOD 8082 (ug/L)	SA	SA	SA	SA	SA	SA	SA	SA	SA		

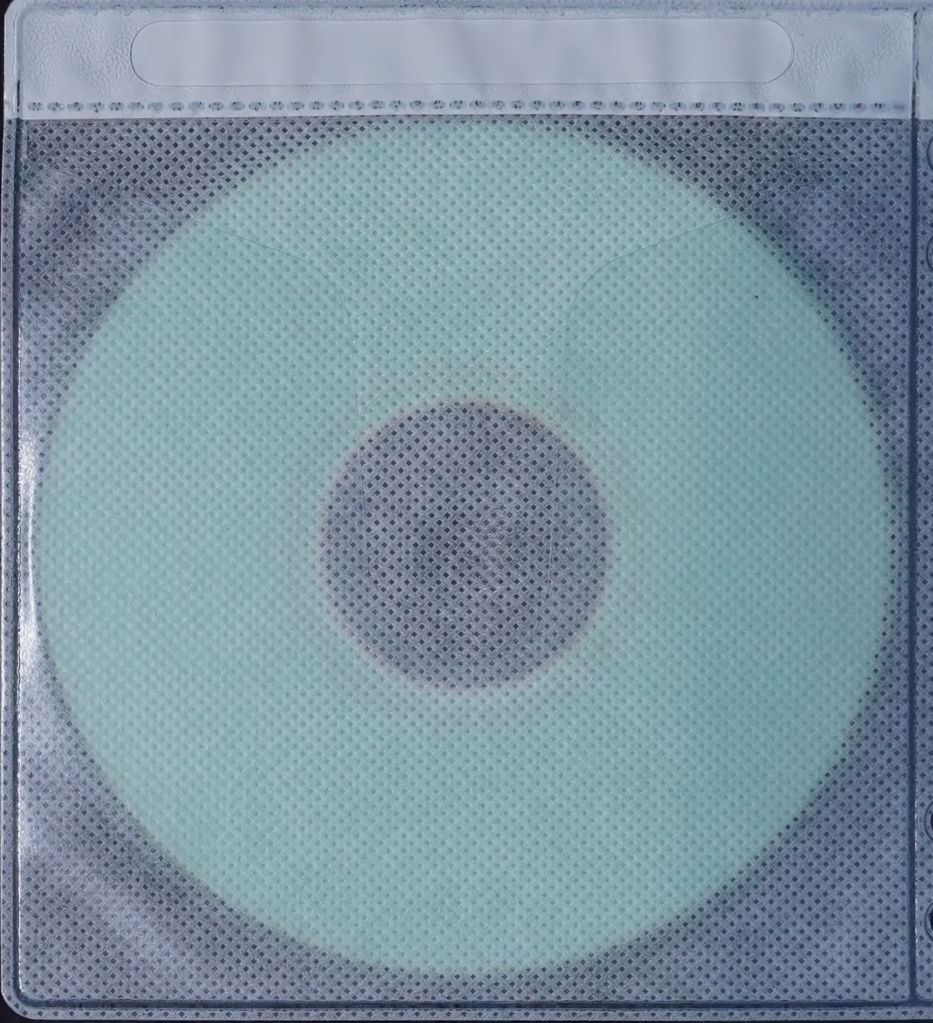
* MCL definitions: a = action level, not an MCL; s = secondary MCL (aesthetics)
NA = Not enough sample available for analysis
NR = Analysis Not Requested
ND = Analyte Not Detected
J = Estimated Quantity. Anlyte present, but less than the practical quantitation limit (PQL).
NS= Sample Not Collected (Dry Well-BSB-A5)
SA = Sample Not Taken

Old Butte-Silver Bow County
Landfill/Clark Tailings

PIONEER
TECHNICAL SERVICES, INC.

December 2014

September 2014
Semi-Annual
Groundwater Monitoring Event



Old Butte-Silver Bow County Landfill
GROUNDWATER FIELD CHEMISTRY RESULTS AND PURGE VOLUMES
September-14

Well I.D.	Sample #	Depth (ft)	Radius (ft)	S.W.L. (ft)	TOC Elevation (ft)	Groundwater Elevation (ft)	pH. (su)	E.h. (mV)	S.C. (uS/cm)	T (Celsius)	Sample Time	H2O Volume Req'd (gal)	H2O Volume Purged (gal)	Comments
MBMG-2	BSB-GW-01	23.25	0.17	13.00	5529.88	5516.88	7.26	-197.7	517	9.6	10:30	5.13	15.00	
BSB-A1	BSB-GW-02	57.00	0.17	36.66	5531.50	5494.84	7.12	-421.0	386	11.2	12:56	10.17	6.00	
BSB-A5	BSB-GW-03	45.60	0.17	42.55	5524.62	5482.07	5.12	-234.80	706	9.10	9:15	1.53	2.50	Well was dry.
BSB-A6-R	BSB-GW-04	59.75	0.17	53.24	5554.41	5501.17	6.46	-411.9	1977	14.0	16:06	3.26	4.00	
BSB-A6-R	BSB-GW-07	59.75	0.17	53.24	5554.41	5501.17	6.46	-411.9	1977	14.0	16:15	3.26	4.00	VOC Duplicate
CLK-1	BSB-GW-05	19.00	0.17	5.03	5478.73	5473.70	6.36	-379.6	1229	9.5	10:00	6.99	7.50	
CLK-2	BSB-GW-06	46.90	0.17	41.30	5511.17	5469.87	6.46	-387.0	1193	5.5	11:05	2.80	5.50	
CLK-2	BSB-GW-08	46.90	0.17	41.30	5511.17	5469.87	6.46	-387.0	1193	5.5	11:05	2.80	5.50	Raw, DM Duplicate
Blank	BSB-GW-09	NA	NA	NA	NA	NA	NA	NA	NA	NA	12:30	NA	NA	Field Blank

KEY:

NA	Measurement Not Taken
SA	Sample Not Taken

FIELD SAMPLE DATA SHEET

Page 1 of 1

Project Name: BSB old Landfill
WELL/STATION MGMB-2
DATE 9/8/14
TIME 1000
SAMPLERS DReno, T Hickey
WEATHER CONDITIONS
PHOTO: Yes ______ No X
ROLL# X
NUMBER X

PURGE DATA:

PURGE METHOD 120V Grudfos
START PURGING 9:50
PURGE RATE .375 GPM
RATE CHANGE 1) Time ______ Rate ______
2) Time ______ Rate ______
SAMPLE TIME 10:30

WELL DEPTH 23.20 Feet
DEPTH TO WATER 13.00' Feet
COLUMN DEPTH 10.20' Feet
CASING DIAMETER 2" Inch
PUMP SET AT 20 Feet
3 WELL VOLUMES 5.10 Gallons
TOTAL PURGE VOLUME ______ Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-01-090814	250	X	HNO_3	Dissloved metals
	250		H_2SO_4	COD, NO_2, NO_3
	250		NaOH	cyanide
	500		Raw	PH, SC, SO_4, cloride
	40		VOC	VOC

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1020		9.4	7.25	506	-201.7	6.2
10:22	NA					
10:24		9.5	7.25	511	-192.6	6.2
10:26		9.6	7.26	513	-188.9	6.1
10:28		9.6	7.26	514	-190.7	6.2

FINAL FIELD PARAMETERS PRIOR TO SAMPLING

10:30		9.6	7.26	517	-197.7	6.3

FIELD REMARKS:

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page 1 of 2

Project Name: BSB Old Landfill
WELL/STATION BSB-A1
DATE 9/8/14
TIME 10:50
SAMPLERS DJ Rene T. Hickey
WEATHER CONDITIONS 60° Sunny Windy 13/15 mph
PHOTO: Yes ______ No ______
ROLL# ______
NUMBER ______

PURGE DATA:

PURGE METHOD 120V Groundfos
START PURGING 11:00
PURGE RATE 200 GPM
RATE CHANGE 1) Time ______ Rate ______
2) Time ______ Rate ______
SAMPLE TIME 12:56

WELL DEPTH 52.53 Feet
DEPTH TO WATER 36.66 Feet
COLUMN DEPTH 15.87 Feet
CASING DIAMETER 2 Inch
PUMP SET AT ______ Feet
3 WELL VOLUMES 7.935 Gallons
TOTAL PURGE VOLUME 6 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB - GW-02-090814	500		Raw	PH, SC, SO4, chloride
	250		NaOH	cyanide
	250		H2SO4	COD, NO2, NO3
	40		HCL	VOC'S

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1218		10.8	7.20	403	TH ~~-395~~ -438	1.3
1220		10.3	7.12	389	-439	0.7
1222		10.4	6.17	390	-438	0.6
1224		10.6	5.81	384	-435	0.5
1226	NA					
1228		10.8	7.07	387	-432	0.7
1230		10.9	7.09	382	-430	0.7
1232		11.0	7.10	384	-427	0.8
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1236		11.2	7.12	386	-421	0.8

FIELD REMARKS: ______

FIELD SAMPLE DATA SHEET

Page 2 of 2

Project Name: BSB - Old Landfill

WELL/STATION BSB-A1 DATE 9/8/14 TIME 10:50

FIELD PARAMATERS CONTINUED:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1234		11.1	7.11	388	-424	0.8

FIELD REMARKS:

FIELD SAMPLE DATA SHEET

Page 1 of 1

Project Name: BSB Old Landfill

WELL/STATION BSB-A5 DATE 9/9/14 TIME 850

SAMPLERS DR, TH WEATHER CONDITIONS

PHOTO: Yes ______ No ______ ROLL# X NUMBER X

PURGE DATA:

PURGE METHOD Bailing

START PURGING

PURGE RATE ______ GPM

RATE CHANGE 1) Time ______ Rate ______

2) Time ______ Rate ______

SAMPLE TIME 9:15

WELL DEPTH 45.60 Feet

DEPTH TO WATER 42.55 Feet

COLUMN DEPTH 3.05 Feet

CASING DIAMETER 2 Inch

PUMP SET AT ______ Feet

3 WELL VOLUMES 1.52 Gallons

TOTAL PURGE VOLUME 3 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-03-090914	250ml		H_2SO_4	COD, NO_2 NO_3
" — — "	250ml		50NaOH	Cyanide
	500ml		Raw	PH, SC, SO_4, Chloride
	3x40ml		HCL	VOC'S

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
9:15		9.1	5.12	706	~~100.6~~ ~~204~~ -234.8	7.4

FIELD REMARKS:

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page 1 of 1

Project Name: BSB Landfill
WELL/STATION BSB-ALR
DATE 9/8/14
TIME ______
SAMPLERS T Haley / PJ Renz
WEATHER CONDITIONS ______
PHOTO: Yes ______ No ______
ROLL# ______
NUMBER ______

PURGE DATA:

PURGE METHOD 120V Grundfos
START PURGING 80 mL/min
PURGE RATE ______ GPM
RATE CHANGE 1) Time ______ Rate ______
2) Time ______ Rate ______
SAMPLE TIME 1606

WELL DEPTH 59.75 Feet
DEPTH TO WATER 53.24 Feet
COLUMN DEPTH 6.51 Feet
CASING DIAMETER 2 Inch
PUMP SET AT ______ Feet
3 WELL VOLUMES 3.255 Gallons
TOTAL PURGE VOLUME 4.0 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-04-090814	500			PH, SC, SO4, Chloride
	~~250~~	~~X~~	~~HNO3~~	~~DM~~ DJ Lam
	250		H2SO4	COD, NO2, NO3
	250		NaOH	cyanide
	40		HCL	VOC's

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1550		14.8	6.46	2004	-409.7	2.1
1554		14.6	6.45	1997	-410.4	2.0
1556		14.3	6.46	1986	-409.0	2.2
1558		14.2	6.46	1975	-409.0	2.1
1600		14.1	6.45	1973	-411.2	2.1
1602		14.1	6.46	1974	-411.8	2.1
1604		14.1	6.47	1977	-411.7	2.2
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1606		14.0	6.46	1977	-411.9	2.1

FIELD REMARKS: * Also collected BSB-GW-07-090814 Duplicated of VOC's * 3, 40 mL glass

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: ~~BSB Old [illegible]~~ Bi Y Clark Tailing

WELL/STATION CLK 1 BS
DATE ______ TIME ______

SAMPLERS ______
WEATHER CONDITIONS ______

PHOTO: Yes ______ No ______
ROLL# ______ NUMBER ______

PURGE DATA:

PURGE METHOD 12V Submersible
START PURGING 950
PURGE RATE 0.75 GPM
RATE CHANGE 1) Time ______ Rate ______
2) Time ______ Rate ______
SAMPLE TIME 1000

WELL DEPTH 19.0 Feet
DEPTH TO WATER 5.03 Feet
COLUMN DEPTH [illegible] Feet 13.97
CASING DIAMETER 2 Inch
PUMP SET AT ______ Feet
3 WELL VOLUMES 6.98 Gallons
TOTAL PURGE VOLUME 7.5 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-05-090914	250	X		Disolved
" "	500		RAW	PH, SC, Cloride, SO4
" "				
" "				
" "				

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
0952		9.5	6.36	1224	-375.2	0.6
0954		9.5	6.36	1225	-376.8	0.5
0956		9.5	6.36	1226	-378.2	0.5
0958		9.5	6.36	1228	-380.0	0.5
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1000	7.5	9.5	6.36	1229	-379.6	0.5

FIELD REMARKS: ______

Pioneer Technical Services

FIELD SAMPLE DATA SHEET

Page __ of __

Project Name: Clark Tailing

WELL/STATION CLK-2

DATE 9/9/14 TIME 1020

SAMPLERS DR, TH

WEATHER CONDITIONS Sunny & calm

PHOTO: Yes ______ No X

ROLL# ______ NUMBER ______

PURGE DATA:

PURGE METHOD 12 volt SUB

START PURGING 500 ml/min

PURGE RATE ______ GPM

RATE CHANGE 1) Time ______ Rate ______

2) Time ______ Rate ______

SAMPLE TIME 11:05

WELL DEPTH 46.90 Feet

DEPTH TO WATER 41.30 Feet

COLUMN DEPTH 5.60 Feet

CASING DIAMETER 2 Inch

PUMP SET AT - Feet

3 WELL VOLUMES 2.8 Gallons

TOTAL PURGE VOLUME 5.5 Gallons

SAMPLE DATA:

SAMPLE #	VOLUME	CHECK IF FILTERED	PRES.	ANALYSIS REQUESTED
BSB-GW-06-090914	250	X	HNO3	DM
	500		Raw	PH, SC, SO4, cloride

FIELD PARAMATERS:

TIME	Amount Purged	Temp C	pH	S.C. um/cm	EH mv	D.O. mg/l
1055	3.5	10.2	6.45	1186	-388	2.3
1058		10.2	6.46	1187	-387	2.4
1100		10.2	6.46	1190	-387	2.5
1102		10.2	6.46	1192	-388	2.5
FINAL FIELD PARAMETERS PRIOR TO SAMPLING						
1105	5.5	10.2	6.46	1193	-387	2.5

FIELD REMARKS: Collect BSB-GW-08-090914 Duplicate of BSB-GW-06-090914

6/19/2014 BSB New Landfill

PTS Sample crew Did Not Record final Field parameters for BSB-W6 & BSB-W8.

Field parameters were copied from field Sheets Into Log Book

C12-GW-04-061814 Final field parameters.

Time	Temp	PH	SC	EH	DO
1322	10.9°C	7.67	483 uS/cm	274.4 MV	7.88 mg/l

C12-GW-06-061814 final field parameters

Time	Temp	PH	SC	EH	DO
1215	14.0°C	7.71	158.5 uS/cm	277.4	9.00 mg/L

DJ Renz
6/19/14

9/8/14 BSB Old Landfill

9:40 arrive @ MGMB-2
PTS Sample Crew
Thomas Hickey
DJ Renz

9:50 begin purging MGMB-2

WD = 23.20'
DTW = 13.00'
Column Depth = 10.20'
Case ø = 2"
pump set @ 20.00'
3 well volumes = 5.10 Gallons

1000 calibrate meters

pH
4.01 - 4.00
7.00 - 7.02
10.01 - 10.04
Slope 98.2

SC = 1413 → 1413 Cal factor 0.407

9/8/14 old Landfill

DO % sat 100%

ORP @ 400MV @23.5°C

10:15 placed meters in flow cell for parameters

10 20 began collect field parameters

10:30 Collect BSB-GW-01-090814
1 500mL HDPE RAW (PH, SC, SO4, Cloride)
1 250mL HDPE NaOH (Cyanide)
1 250mL HDPE H2SO4 (COD, NO2, NO3)
1 250mL HDPE HNO3 (Dissolved metals)
3 40mL Glass VOC

Final Field Parameters for MGMB-2

Time	PH	temp	SC	EH/ORP	DO
10 30	7.26	9.6°C	517	-197.7MV	6.3

1035 stop purging MGMB-2 pull pump a Decon

36.66'

10:50 Arrive @ BSB-A1

TD = 52.53
DTW = 36.66
Casing ø = 2"
Column Depth = 15.87
3 well volumes = 7,935 gallons

11:00 began purging
Pump set @ 76
Purge rate = 250 mL/min
rate changed to 70
Purge rate = 200 mL/min

1130 Arrive @ BSB-A5

DTW = 42.55'
TD = 45.60'
Column: 3.05'
3well = 1.525 gallons

1145 Purged 1.25 gallons from BSB-A5
12:07 Purged 1.25 gallons from BSB-A5
Total purged 2.5 gallons from BSB-A5

9/8/14 old Landfill

1145 Arrive Back @ BSB-A1
3.5 gallons purged from well

1218 Begin collecting field parameters
on BSB-GW-02

Final Draw Down = 43.24'

1256 Collect BSB-GW-02-090814
1 250 mL HNO3 Dissolved metals HDPE
1 250 mL H2SO4 COD, NO2, NO3 HDP
1 250 mL NaOH cyanide HDPE
1 500 mL Raw PH, SC, SO4 chloride HD
3 40 mL HCL VOC glass

1243 Stop purging BSB-A1
Remove pump and Decon

1245 Final Field parameter BSB-GW-0209

Temp	Time	PH	SC	EH/orp	DO
11.2 °C	1236	7.12	386 µS/cm	-421 mV	0.8 mg/L

1300 Arrive @ BSB-A6R

TD = 59.75'
DTW = 53.24'
Column Depth = 6.51'
3 well volumes = 3.255
Case ø = 2"

1305 Begin purging BSB-A6R @
100 mL/min gpm 1hr 48min
1457 total pumped 2gal

15:42 3.255 total gallons purged from
BSB-A6R

1544 placed meters in flow cell for
parameters

1550 began collecting field parameters

1606 Final Field Parameter BSB-GW-04-090814

Time	Temp	PH	SC	EH/orp	DO
1606	14.0	6.46	1977	-411.9	2.1

1606 Collect BSB-GW-04-090814
1 250mL HDPE HNO3 Dissolved
1 250mL HDPE H_2SO_4
1 250mL HDPE NaOH
1 500mL HDPE Raw
3 40mL Glass VOC

1615 Collect BSB-GW-07-090814
3-40mL Glass VOC
Duplicate of BSB-GW-04-090814
or BSB-A6R

1630 pull and decon pump
from BSB-A6R

1700 pts OFF site for the
Day Dumped purge water
@ CAU Treatment plant

DJ

9/8/14

9/9/14 BSB old landfill

850 ON site @ BSB- A5
pts Sample crew
+ DJ Benz
Tom Hickey

900 calibrate Meters
ph 7.00 - 7.00
4.01 - 4.00
10.01 - 10.06

Conductivity
1413 @ 16.3 °C 0.420 calfactor

ORP
400 mv - 400 mv @ 18.8°C
DO 100% saturation

910 Begin Bailing BSB-A5

Collect Field parameters

Time	PH	SC	ORP	DO	Temp
0915	5.12	706 u/c	-~~[illegible]~~mv -234.8 mv	7.4mg/L	9.1

0909 42.54 DTW

0915 Collect BSB-GW-03-090914
1 250 mL HDPE H_2SO_4 COD, NO_2, NO_3
1 250 mL HDPE Sodium cyanide
1 500 mL HDPE Raw PH, SC, SO_4, chloride
3 40mL glass HCl VOC's

0935 Arrive @ CLK-1
TD = 19.0'
DTW = 5.03'
Case = 2" Ø
Column Depth: 13.97'
3 well volumes = 6.98

0950 Begin purging CK1 @ 0.75
gpm well Ran Orange silt
to start then cleared after
1 min.

0952 Begin Collect Field parameters

1000 Collect BSB-GW-05-090914
1 500 mL HDPE Raw PH, SC, SO_4, Chloride
1 250 mL HDPE HNO_3 DM

1000 Final Field Parameters

Pt	SC	ORP	DO	Time	Temp
6.36	1229 us/cm	-379.6 mV	0.5 mg/L	1000	7.5°C

1003 pull 12 volt pump and Decon
all purge water Contained In purge
containers to Be Brought to LCO.

1015 Arrive @ CLK-2

TD: 46.90
DTW = 41.30
Column = 5.60
Case Ø = 2"
3 well volumes = 2.8 gallon

1038 Begin purging CLK-2
@ 500 mL/min

1105 Collect BSB-GW-06 090914
1 250 mL HDPE HNO_3 DM
1 500 mL HDPE Raw PH, SC, SO_4, Chloride

1105 Collect BSB-GW-08-090914
Duplicate of BSB-GW-06-090914

1 250 mL HDPE HNO3 DM
1 500 mL Raw HDPE pH, SC, SO4, chloride

1115 stop purging CLK-2 pull pump
and Decon.

1130 Dump All purge water @
CAD WWTP.

1230 collect BSB-GW-09-090914
1 500 mL HDPE Raw, pH, SC, SO4, chloride
1 250 mL HDPE HNO3 DM
* DI Blank *

1440 ~~ship~~ ship coolers w/Ice
to Pace Analytical using
FedEx

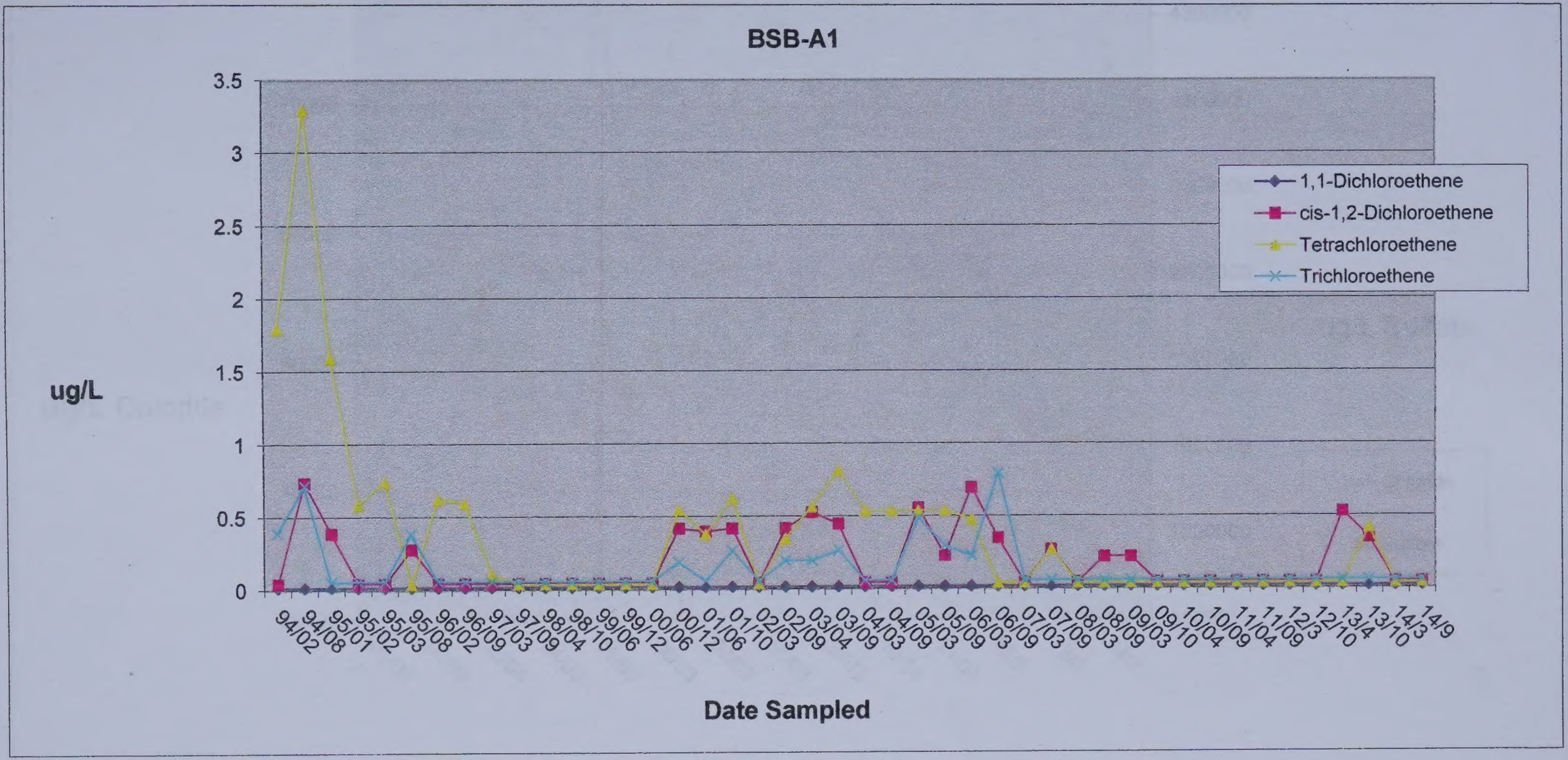
1105 Final Field parameters CLK-2

Time	Temp	pH	SC	ORP	DO
1105	10.2°C	6.46	1193 uS/cm	-387 mV	2.5 mg/L

1500 PTS crew done shipping Samples
and Done working on landfill project

DJ

9/9/2014


BSB-A1
3.5
3
2.5
2
1.5
1
0.5
0
ug/L
1,1-Dichloroethene
cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene
94/02
94/08
95/01
95/02
95/03
95/08
96/02
96/09
97/03
97/09
98/04
98/10
99/06
99/12
00/06
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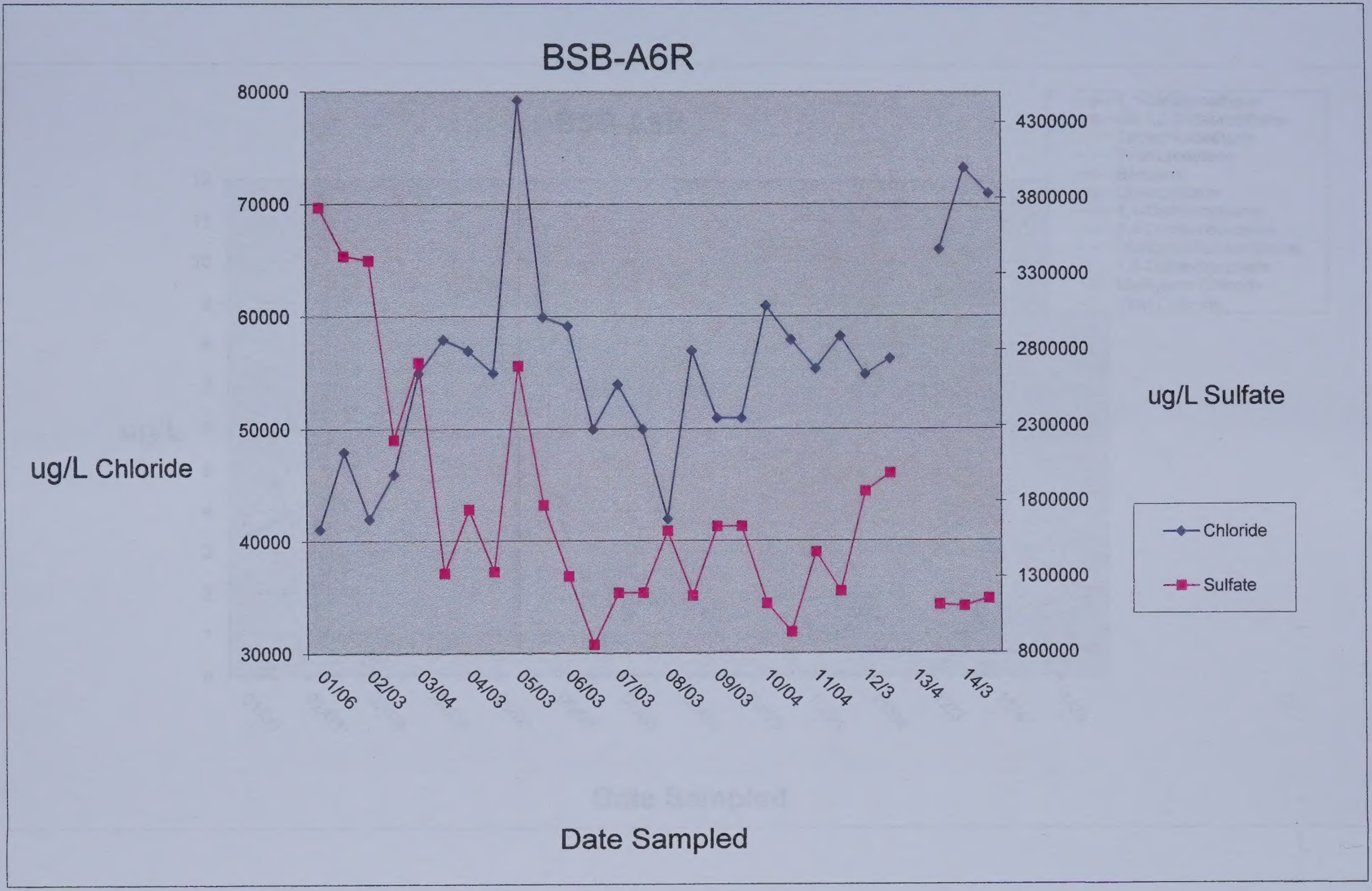
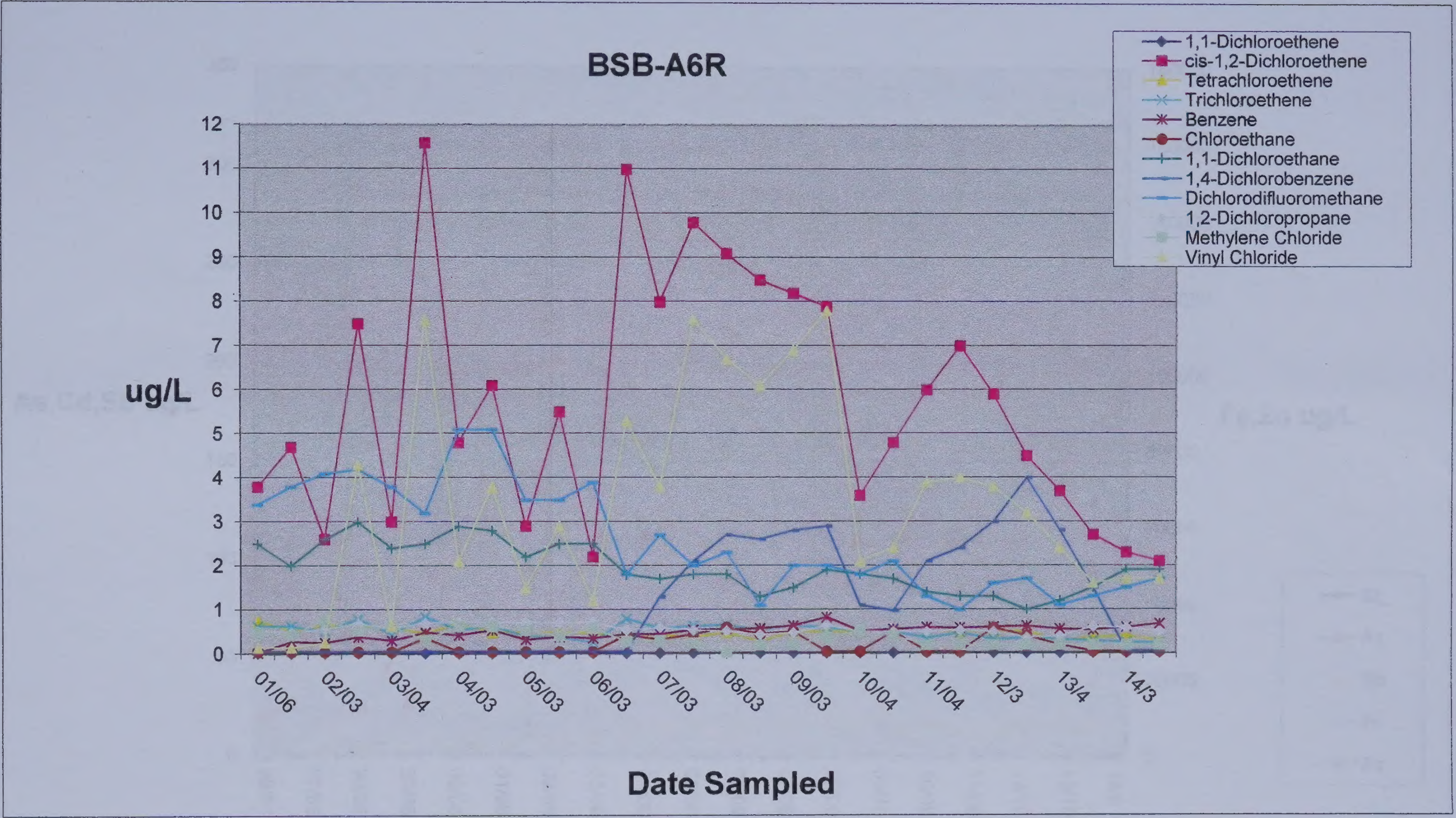
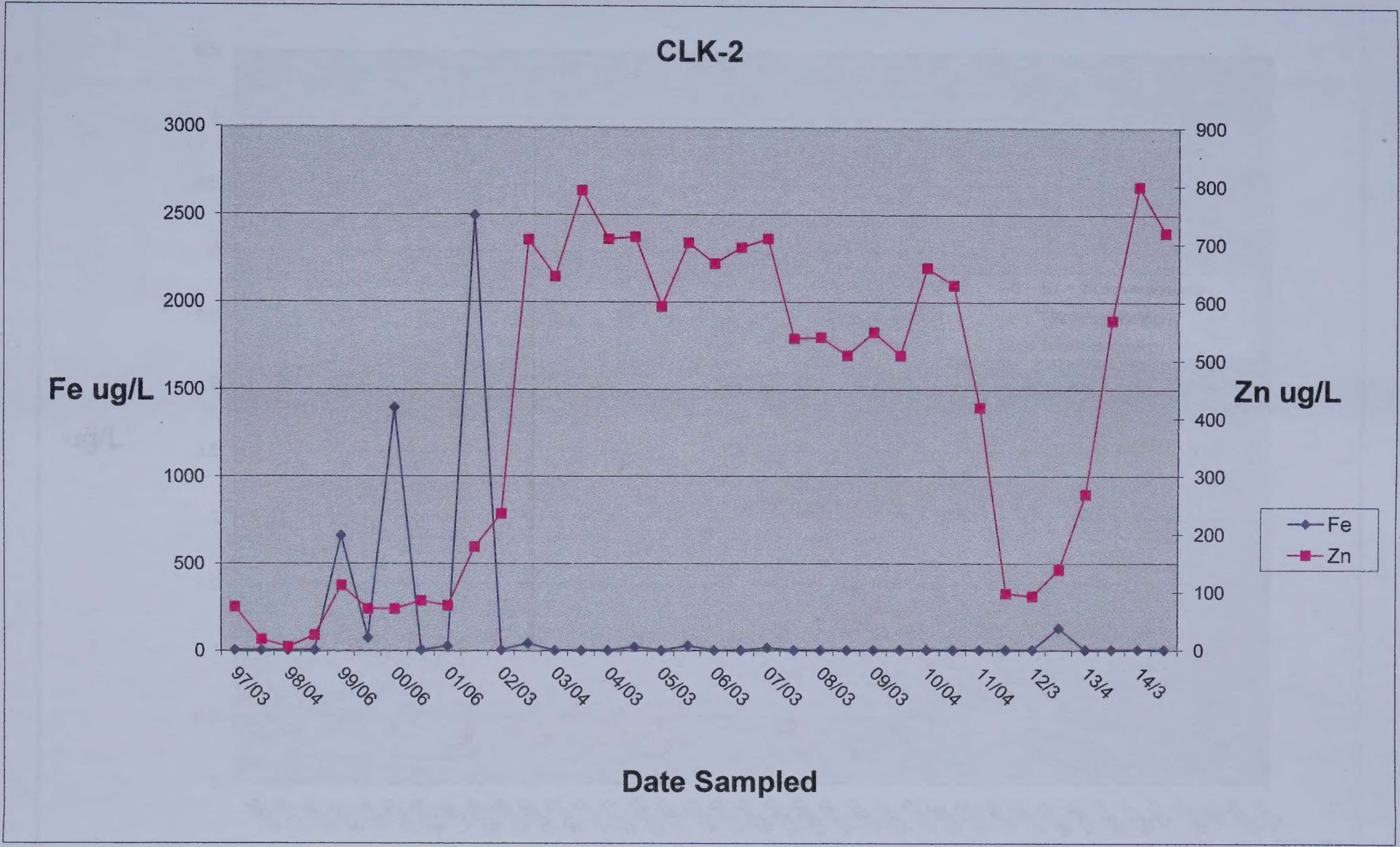
11/09
12/3
12/10
13/4
13/10
14/3
14/9
Date Sampled


BSB-A6R
80000
70000
60000
50000
40000
30000
ug/L Chloride
4300000
3800000
3300000
2800000
2300000
1800000
1300000
800000
ug/L Sulfate
Chloride
Sulfate
01/06
02/03
03/04
04/03
05/03
06/03
07/03
08/03
09/03
10/04
11/04
12/3
13/4
14/3
Date Sampled

BSB-A6R
ug/L
12
11
10
9
8
7
6
5
4
3
2
1
0
01/06
02/03
03/04
04/03
05/03
06/03
07/03
08/03
09/03
10/04
11/04
12/3
13/4
14/3
Date Sampled
1,1-Dichloroethene
cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene
Benzene
Chloroethane
1,1-Dichloroethane
1,4-Dichlorobenzene
Dichlorodifluoromethane
1,2-Dichloropropane
Methylene Chloride
Vinyl Chloride


CLK-2
Fe ug/L
3000
2500
2000
1500
1000
500
0
Zn ug/L
900
800
700
600
500
400
300
200
100
0
97/03
98/04
99/06
00/06
01/06
02/03
03/04
04/03
05/03
06/03
07/03
08/03
09/03
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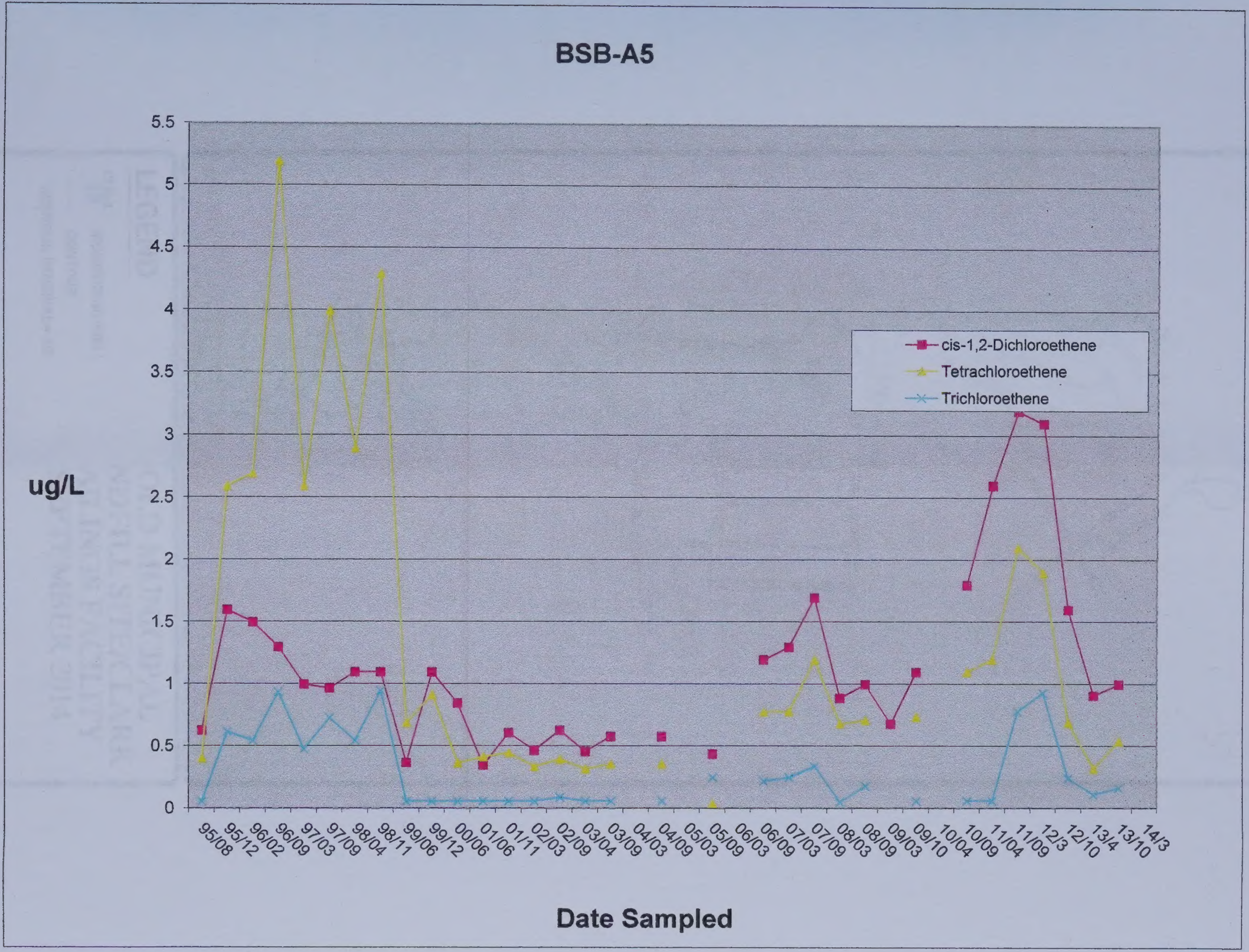
13/4
14/3
Fe
Zn
Date Sampled


BSB-A5
ug/L
5.5
5
4.5
4
3.5
3
2.5
2
1.5
1
0.5
0
cis-1,2-Dichloroethene
Tetrachloroethene
Trichloroethene
95/08
95/12
96/02
96/09
97/03
97/09
98/04
98/11
99/06
99/12
00/06
01/06
01/11
02/03
02/09
03/04
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08/03
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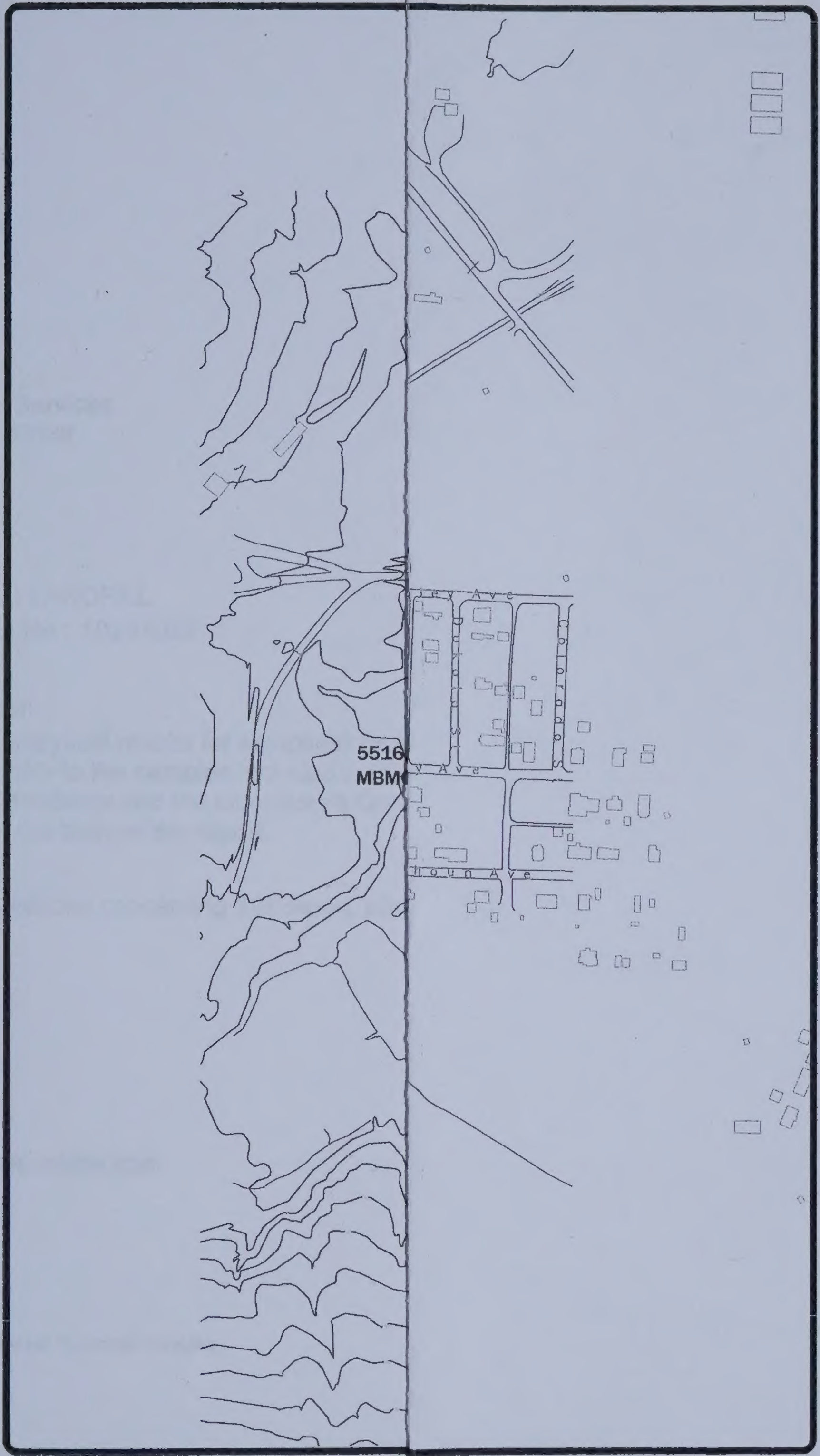
10/04
10/09
11/04
11/09
12/3
12/10
13/4
13/10
14/3
Date Sampled


5516
MBM
Ave
houn Ave

LEGEND

CLK-1 ● MONITORING WELL

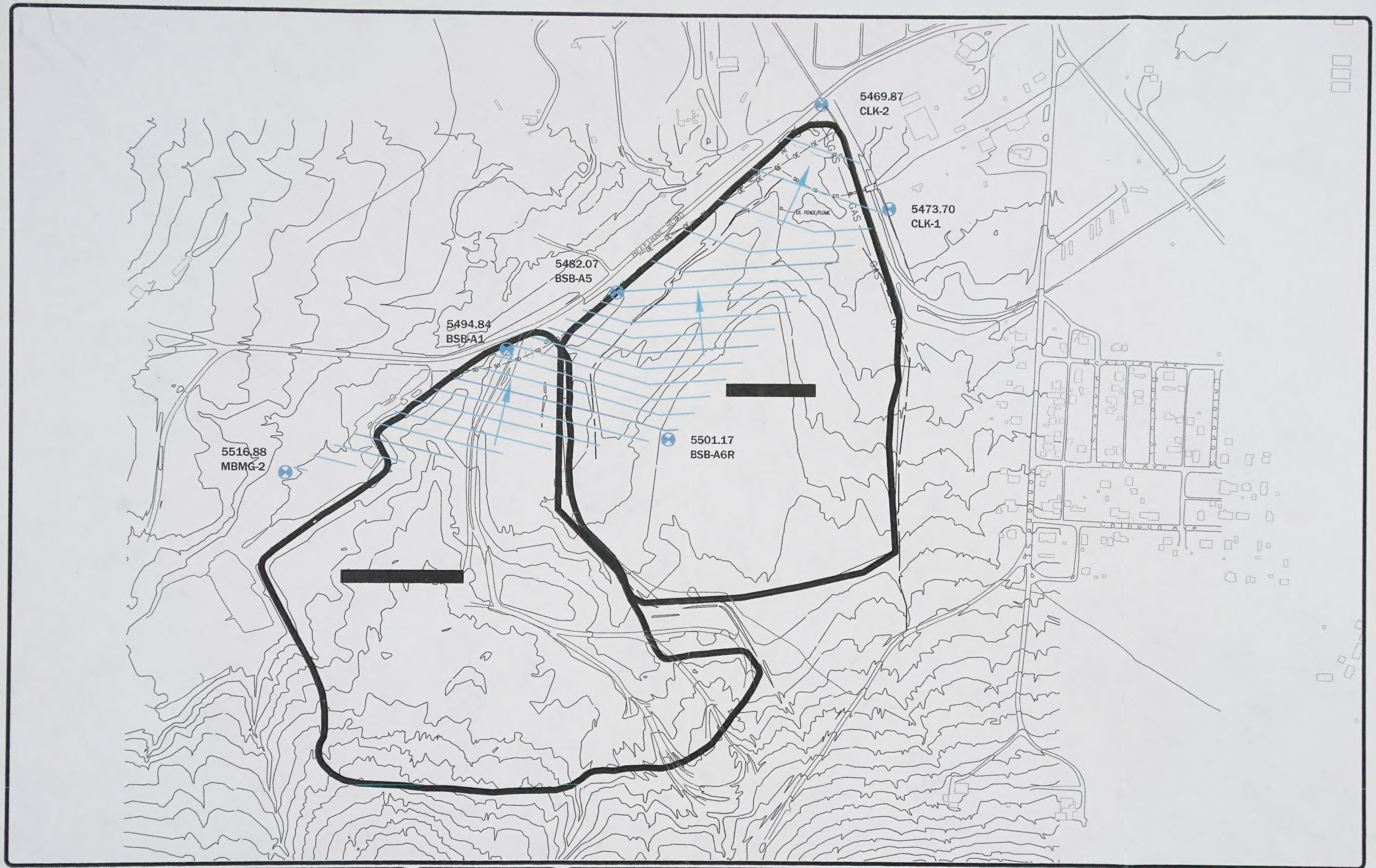
—— CONTOUR

CONTOUR INTERVAL= 10'

OLD MUNICIPAL
NDFILL SITE/CLARK
AILINGS FACILITY
SEPTEMBER 2014

DATE: 11/24/14

11/24/2014 11:34:33 AM P:\B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5473.70
CLK-1
5482.07
BSB-A5
5494.84
BSB-A1
EX. FENCE/FLUME
GAS
[redacted]
5501.17
BSB-A6R
5516.88
MBMG-2
[redacted]

[redacted]

[redacted]

LEGEND

CLK-1
● MONITORING WELL
——— CONTOUR
CONTOUR INTERVAL= 10'

N

DISPLAYED AS:	
COORD SYS/ZONE:	NA
DATUM:	NA
UNITS:	FEET
SOURCE:	PIONEER

SCALE IN FEET
0 300 600

FIGURE 1

PIONEER
TECHNICAL SERVICES, INC.
63-1/2 WEST BROADWAY
BUTTE, MONTANA 59701
(406) 782-5177

OLD MUNICIPAL
LANDFILL SITE/CLARK
TAILINGS FACILITY
SEPTEMBER 2014

DATE: 11/24/14

11/24/2014 11:34:33 AM P:\BUTTE-SILVER BOW\BSB OLD LANDFILL\OLD LANDFILL\2014\OLDLNDFL-FG-PLN-001-14.DWG

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

October 03, 2014

Brad Hollamon
Pioneer Technical Services
1101 S. Montana Street
Butte, MT 59701

RE: Project: OLD LANDFILL
Pace Project No.: 10281023

Dear Brad Hollamon:

Enclosed are the analytical results for sample(s) received by the laboratory on September 10, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Chee Lee for
Julie Thieschafer
julie.thieschafer@pacelabs.com
Project Manager

Enclosures

cc: Mitch Mihailovich, Pioneer Technical Services

CERTIFICATIONS

Project: OLD LANDFILL
Pace Project No.: 10281023

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #: Pace
Georgia Certification #: 959
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
Wisconsin Certification #: 999407970
West Virginia Certification #: 382
West Virginia DHHR #:9952C

SAMPLE SUMMARY

Project: OLD LANDFILL
Pace Project No.: 10281023

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10281023001	**BSB-GW-01-090814**	Water	09/08/14 10:30	09/10/14 10:15
10281023002	**BSB-GW-02-090814**	Water	09/08/14 12:56	09/10/14 10:15
10281023003	**BSB-GW-03-090914**	Water	09/09/14 09:15	09/10/14 10:15
10281023004	**BSB-GW-04-090814**	Water	09/08/14 16:06	09/10/14 10:15
10281023005	**BSB-GW-07-090814**	Water	09/08/14 16:15	09/10/14 10:15
10281023006	**TRIP BLANK**	Water	09/08/14 00:00	09/10/14 10:15

SAMPLE ANALYTE COUNT

Project:	OLD LANDFILL
Pace Project No.:	10281023

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10281023001	BSB-GW-01-090814	EPA 200.8	RJS	14	PASI-M
		EPA 8260	SH2	54	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		EPA 353.2	SH	1	PASI-M
		EPA 410.4	KEO	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10281023002	BSB-GW-02-090814	EPA 8260	SH2	54	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		EPA 353.2	SH	1	PASI-M
		EPA 410.4	KEO	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10281023003	BSB-GW-03-090914	EPA 8260	SH2	54	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		EPA 353.2	SH	1	PASI-M
		EPA 410.4	KEO	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10281023004	BSB-GW-04-090814	EPA 8260	SH2	54	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		EPA 353.2	SH	1	PASI-M
		EPA 410.4	KEO	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
		SM 4500-CN-E	PH1	1	PASI-M
10281023005	BSB-GW-07-090814	EPA 8260	SH2	54	PASI-M
10281023006	TRIP BLANK	EPA 8260	SH2	54	PASI-M

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10281023

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Dissolved
Client: BPAR-PIONEER-MT
Date: October 03, 2014

General Information:
1 sample was analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/49085

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10280884002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1790889)
  - Iron, Dissolved
  - Zinc, Dissolved
- MSD (Lab ID: 1790890)
  - Zinc, Dissolved

Additional Comments:

Analyte Comments:

QC Batch: MPRP/49085

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1790889)
  - Zinc, Dissolved

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10281023

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Dissolved
Client: BPAR-PIONEER-MT
Date: October 03, 2014

Analyte Comments:

QC Batch: MPRP/49085

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MSD (Lab ID: 1790890)
  - Zinc, Dissolved

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10281023

Method: **EPA 8260**
Description: 8260 MSV
Client: BPAR-PIONEER-MT
Date: October 03, 2014

General Information:
6 samples were analyzed for EPA 8260. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

QC Batch: MSV/28600

CL: The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.

- BLANK (Lab ID: 1792827)
  - Bromomethane
  - Iodomethane
- BSB-GW-01-090814 (Lab ID: 10281023001)
  - Bromomethane
  - Iodomethane
- BSB-GW-02-090814 (Lab ID: 10281023002)
  - Bromomethane
  - Iodomethane
- BSB-GW-03-090914 (Lab ID: 10281023003)
  - Bromomethane
  - Iodomethane
- BSB-GW-04-090814 (Lab ID: 10281023004)
  - Bromomethane
  - Iodomethane
- BSB-GW-07-090814 (Lab ID: 10281023005)
  - Bromomethane
  - Iodomethane
- DUP (Lab ID: 1794131)
  - Bromomethane
  - Iodomethane
- LCS (Lab ID: 1792828)
  - Bromomethane
  - Iodomethane
- MS (Lab ID: 1794130)
  - Bromomethane
  - Iodomethane
- TRIP BLANK (Lab ID: 10281023006)
  - Bromomethane
  - Iodomethane

PROJECT NARRATIVE

Project:	OLD LANDFILL
Pace Project No.:	10281023

Method: **EPA 8260**
Description: 8260 MSV
Client: BPAR-PIONEER-MT
Date: October 03, 2014

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Surrogates:
All surrogates were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

QC Batch: MSV/28600

B: Analyte was detected in the associated method blank.
- BLANK for HBN 318950 [MSV/2860 (Lab ID: 1792827)
  - Carbon disulfide

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MSV/28600

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10281023001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
- MS (Lab ID: 1794130)
  - Iodomethane

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10281023

Method: **EPA 120.1**
Description: 120.1 Specific Conductance
Client: BPAR-PIONEER-MT
Date: October 03, 2014

General Information:
4 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10281023

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: BPAR-PIONEER-MT
Date: October 03, 2014

General Information:
4 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA recommended holding time.
- BSB-GW-01-090814 (Lab ID: 10281023001)
- BSB-GW-02-090814 (Lab ID: 10281023002)
- BSB-GW-03-090914 (Lab ID: 10281023003)
- BSB-GW-04-090814 (Lab ID: 10281023004)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10281023

Method: **EPA 353.2**
Description: 353.2 Nitrate + Nitrite pres.
Client: BPAR-PIONEER-MT
Date: October 03, 2014

General Information:
4 samples were analyzed for EPA 353.2. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10281023

Method: **EPA 410.4**
Description: 410.4 COD
Client: BPAR-PIONEER-MT
Date: October 03, 2014

General Information:
4 samples were analyzed for EPA 410.4. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 410.4 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/20204

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10280918001,10281023001

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1790919)
  - Chemical Oxygen Demand

Additional Comments:

PROJECT NARRATIVE

Project:	OLD LANDFILL
Pace Project No.:	10281023

Method: **ASTM D516**
Description: ASTM D516 Sulfate Water
Client: BPAR-PIONEER-MT
Date: October 03, 2014

General Information:
4 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/20265

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10280884001,10281226004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1793852)
  - Sulfate
- MSD (Lab ID: 1793853)
  - Sulfate

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 1793850)
  - Sulfate
- MSD (Lab ID: 1793851)
  - Sulfate

Additional Comments:

PROJECT NARRATIVE

Project:	OLD LANDFILL
Pace Project No.:	10281023

Method: **SM 4500-Cl E**
Description: SM4500Cl-E Chloride
Client: BPAR-PIONEER-MT
Date: October 03, 2014

General Information:
4 samples were analyzed for SM 4500-Cl E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: OLD LANDFILL
Pace Project No.: 10281023

Method: **SM 4500-CN-E**
Description: SM4500CN-E Cyanide
Client: BPAR-PIONEER-MT
Date: October 03, 2014

General Information:
4 samples were analyzed for SM 4500-CN-E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with SM 4500-CN-E with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: BSB-GW-01-090814 **Lab ID: 10281023001** Collected: 09/08/14 10:30 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	ND	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 02:42	7440-36-0	
Arsenic, Dissolved	**0.0012**	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 02:42	7440-38-2	
Barium, Dissolved	**0.12**	mg/L	0.00030	0.00014	1	09/17/14 11:54	09/18/14 02:42	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000066	1	09/17/14 11:54	09/18/14 02:42	7440-41-7	
Cadmium, Dissolved	ND	mg/L	0.000080	0.000033	1	09/17/14 11:54	09/18/14 02:42	7440-43-9	
Chromium, Dissolved	**0.00031J**	mg/L	0.00050	0.00022	1	09/17/14 11:54	09/18/14 02:42	7440-47-3	
Cobalt, Dissolved	ND	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 02:42	7440-48-4	
Copper, Dissolved	**0.0010J**	mg/L	0.0010	0.00022	1	09/17/14 11:54	09/18/14 02:42	7440-50-8	
Iron, Dissolved	ND	mg/L	0.050	0.0080	1	09/17/14 11:54	09/18/14 02:42	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	09/17/14 11:54	09/18/14 02:42	7439-92-1	
Nickel, Dissolved	**0.0018**	mg/L	0.00050	0.00023	1	09/17/14 11:54	09/18/14 02:42	7440-02-0	
Selenium, Dissolved	**0.00086**	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 02:42	7782-49-2	
Vanadium, Dissolved	**0.0068**	mg/L	0.0010	0.00021	1	09/17/14 11:54	09/18/14 02:42	7440-62-2	
Zinc, Dissolved	ND	mg/L	0.0050	0.0025	1	09/17/14 11:54	09/18/14 02:42	7440-66-6	
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	mg/L	0.020	0.010	1		09/18/14 14:36	67-64-1	
Acetonitrile	ND	mg/L	0.10	0.0021	1		09/18/14 14:36	75-05-8	
Benzene	ND	mg/L	0.0010	0.00015	1		09/18/14 14:36	71-43-2	
Bromochloromethane	ND	mg/L	0.0010	0.00012	1		09/18/14 14:36	74-97-5	
Bromodichloromethane	ND	mg/L	0.0010	0.00020	1		09/18/14 14:36	75-27-4	
Bromoform	ND	mg/L	0.0040	0.0020	1		09/18/14 14:36	75-25-2	
Bromomethane	ND	mg/L	0.0040	0.0020	1		09/18/14 14:36	74-83-9	CL
2-Butanone (MEK)	ND	mg/L	0.0050	0.0025	1		09/18/14 14:36	78-93-3	
Carbon disulfide	**0.00020J**	mg/L	0.0010	0.00020	1		09/18/14 14:36	75-15-0	B
Carbon tetrachloride	ND	mg/L	0.0010	0.00016	1		09/18/14 14:36	56-23-5	
Chlorobenzene	ND	mg/L	0.0010	0.000066	1		09/18/14 14:36	108-90-7	
Chloroethane	ND	mg/L	0.0040	0.00024	1		09/18/14 14:36	75-00-3	
Chloroform	**0.00049J**	mg/L	0.0010	0.00016	1		09/18/14 14:36	67-66-3	
Chloromethane	ND	mg/L	0.0040	0.00034	1		09/18/14 14:36	74-87-3	
1,2-Dibromo-3-chloropropane	ND	mg/L	0.0040	0.0020	1		09/18/14 14:36	96-12-8	
Dibromochloromethane	ND	mg/L	0.0010	0.00050	1		09/18/14 14:36	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/L	0.0010	0.00015	1		09/18/14 14:36	106-93-4	
Dibromomethane	ND	mg/L	0.0040	0.00018	1		09/18/14 14:36	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.0010	0.00016	1		09/18/14 14:36	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0010	0.00050	1		09/18/14 14:36	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.0010	0.00050	1		09/18/14 14:36	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/L	0.010	0.0050	1		09/18/14 14:36	110-57-6	
Dichlorodifluoromethane	ND	mg/L	0.0010	0.00050	1		09/18/14 14:36	75-71-8	
1,1-Dichloroethane	ND	mg/L	0.0010	0.00016	1		09/18/14 14:36	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.0010	0.00013	1		09/18/14 14:36	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.0010	0.00020	1		09/18/14 14:36	75-35-4	
cis-1,2-Dichloroethene	ND	mg/L	0.0010	0.00013	1		09/18/14 14:36	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.0010	0.00023	1		09/18/14 14:36	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.0040	0.00014	1		09/18/14 14:36	78-87-5	
cis-1,3-Dichloropropene	ND	mg/L	0.0040	0.00013	1		09/18/14 14:36	10061-01-5	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: BSB-GW-01-090814 **Lab ID: 10281023001** Collected: 09/08/14 10:30 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
trans-1,3-Dichloropropene	ND	mg/L	0.0040	0.00018	1		09/18/14 14:36	10061-02-6	
Ethylbenzene	ND	mg/L	0.0010	0.00016	1		09/18/14 14:36	100-41-4	
2-Hexanone	ND	mg/L	0.0050	0.0025	1		09/18/14 14:36	591-78-6	
Iodomethane	ND	mg/L	0.010	0.0020	1		09/18/14 14:36	74-88-4	CL,M1
Methylene Chloride	ND	mg/L	0.0040	0.0020	1		09/18/14 14:36	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/L	0.0050	0.0025	1		09/18/14 14:36	108-10-1	
Styrene	ND	mg/L	0.0010	0.000063	1		09/18/14 14:36	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010	0.00050	1		09/18/14 14:36	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0010	0.00050	1		09/18/14 14:36	79-34-5	
Tetrachloroethene	ND	mg/L	0.0010	0.00016	1		09/18/14 14:36	127-18-4	
Toluene	ND	mg/L	0.0010	0.00011	1		09/18/14 14:36	108-88-3	
1,1,1-Trichloroethane	ND	mg/L	0.0010	0.00026	1		09/18/14 14:36	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.0010	0.00013	1		09/18/14 14:36	79-00-5	
Trichloroethene	ND	mg/L	0.00040	0.000091	1		09/18/14 14:36	79-01-6	
Trichlorofluoromethane	ND	mg/L	0.0010	0.00022	1		09/18/14 14:36	75-69-4	
1,2,3-Trichloropropane	ND	mg/L	0.0040	0.0012	1		09/18/14 14:36	96-18-4	
Vinyl acetate	ND	mg/L	0.010	0.00021	1		09/18/14 14:36	108-05-4	
Vinyl chloride	ND	mg/L	0.00040	0.00020	1		09/18/14 14:36	75-01-4	
Xylene (Total)	ND	mg/L	0.0030	0.00040	1		09/18/14 14:36	1330-20-7	
m&p-Xylene	**0.00035J**	mg/L	0.0020	0.00031	1		09/18/14 14:36	179601-23-1	
o-Xylene	**0.00025J**	mg/L	0.0010	0.000094	1		09/18/14 14:36	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	102	%.	75-125		1		09/18/14 14:36	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1		09/18/14 14:36	2037-26-5	
4-Bromofluorobenzene (S)	110	%.	75-125		1		09/18/14 14:36	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**8.2**	umhos/cm	1.0	1.0	1		09/18/14 09:25		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.5**	Std. Units	0.10	0.050	1		09/15/14 10:44		H6
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**6.1**	mg/L	0.10	0.050	5		09/16/14 16:11		
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4								
Chemical Oxygen Demand	ND	mg/L	50.0	11.2	1	09/17/14 10:31	09/18/14 15:23		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**116**	mg/L	12.5	6.2	5		09/19/14 11:35	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**55.8**	mg/L	2.0	0.10	2		09/15/14 11:03	16887-00-6	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: BSB-GW-01-090814 Lab ID: **10281023001** Collected: 09/08/14 10:30 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E								
Cyanide	**0.0066J**	mg/L	0.010	0.0050	1	09/19/14 10:48	09/19/14 14:27	57-12-5	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: BSB-GW-02-090814 Lab ID: **10281023002** Collected: 09/08/14 12:56 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	mg/L	0.020	0.010	1		09/18/14 14:50	67-64-1	
Acetonitrile	ND	mg/L	0.10	0.0021	1		09/18/14 14:50	75-05-8	
Benzene	ND	mg/L	0.0010	0.00015	1		09/18/14 14:50	71-43-2	
Bromochloromethane	ND	mg/L	0.0010	0.00012	1		09/18/14 14:50	74-97-5	
Bromodichloromethane	ND	mg/L	0.0010	0.00020	1		09/18/14 14:50	75-27-4	
Bromoform	ND	mg/L	0.0040	0.0020	1		09/18/14 14:50	75-25-2	
Bromomethane	ND	mg/L	0.0040	0.0020	1		09/18/14 14:50	74-83-9	CL
2-Butanone (MEK)	ND	mg/L	0.0050	0.0025	1		09/18/14 14:50	78-93-3	
Carbon disulfide	ND	mg/L	0.0010	0.00020	1		09/18/14 14:50	75-15-0	
Carbon tetrachloride	ND	mg/L	0.0010	0.00016	1		09/18/14 14:50	56-23-5	
Chlorobenzene	ND	mg/L	0.0010	0.000066	1		09/18/14 14:50	108-90-7	
Chloroethane	ND	mg/L	0.0040	0.00024	1		09/18/14 14:50	75-00-3	
Chloroform	ND	mg/L	0.0010	0.00016	1		09/18/14 14:50	67-66-3	
Chloromethane	ND	mg/L	0.0040	0.00034	1		09/18/14 14:50	74-87-3	
1,2-Dibromo-3-chloropropane	ND	mg/L	0.0040	0.0020	1		09/18/14 14:50	96-12-8	
Dibromochloromethane	ND	mg/L	0.0010	0.00050	1		09/18/14 14:50	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/L	0.0010	0.00015	1		09/18/14 14:50	106-93-4	
Dibromomethane	ND	mg/L	0.0040	0.00018	1		09/18/14 14:50	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.0010	0.00016	1		09/18/14 14:50	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0010	0.00050	1		09/18/14 14:50	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.0010	0.00050	1		09/18/14 14:50	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/L	0.010	0.0050	1		09/18/14 14:50	110-57-6	
Dichlorodifluoromethane	ND	mg/L	0.0010	0.00050	1		09/18/14 14:50	75-71-8	
1,1-Dichloroethane	ND	mg/L	0.0010	0.00016	1		09/18/14 14:50	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.0010	0.00013	1		09/18/14 14:50	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.0010	0.00020	1		09/18/14 14:50	75-35-4	
cis-1,2-Dichloroethene	ND	mg/L	0.0010	0.00013	1		09/18/14 14:50	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.0010	0.00023	1		09/18/14 14:50	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.0040	0.00014	1		09/18/14 14:50	78-87-5	
cis-1,3-Dichloropropene	ND	mg/L	0.0040	0.00013	1		09/18/14 14:50	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0040	0.00018	1		09/18/14 14:50	10061-02-6	
Ethylbenzene	**0.00021J**	mg/L	0.0010	0.00016	1		09/18/14 14:50	100-41-4	
2-Hexanone	ND	mg/L	0.0050	0.0025	1		09/18/14 14:50	591-78-6	
Iodomethane	ND	mg/L	0.010	0.0020	1		09/18/14 14:50	74-88-4	CL
Methylene Chloride	ND	mg/L	0.0040	0.0020	1		09/18/14 14:50	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/L	0.0050	0.0025	1		09/18/14 14:50	108-10-1	
Styrene	ND	mg/L	0.0010	0.000063	1		09/18/14 14:50	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010	0.00050	1		09/18/14 14:50	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0010	0.00050	1		09/18/14 14:50	79-34-5	
Tetrachloroethene	ND	mg/L	0.0010	0.00016	1		09/18/14 14:50	127-18-4	
Toluene	ND	mg/L	0.0010	0.00011	1		09/18/14 14:50	108-88-3	
1,1,1-Trichloroethane	ND	mg/L	0.0010	0.00026	1		09/18/14 14:50	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.0010	0.00013	1		09/18/14 14:50	79-00-5	
Trichloroethene	ND	mg/L	0.00040	0.000091	1		09/18/14 14:50	79-01-6	
Trichlorofluoromethane	ND	mg/L	0.0010	0.00022	1		09/18/14 14:50	75-69-4	
1,2,3-Trichloropropane	ND	mg/L	0.0040	0.0012	1		09/18/14 14:50	96-18-4	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: BSB-GW-02-090814 **Lab ID: 10281023002** Collected: 09/08/14 12:56 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl acetate	ND	mg/L	0.010	0.00021	1		09/18/14 14:50	108-05-4	
Vinyl chloride	ND	mg/L	0.00040	0.00020	1		09/18/14 14:50	75-01-4	
Xylene (Total)	ND	mg/L	0.0030	0.00040	1		09/18/14 14:50	1330-20-7	
m&p-Xylene	**0.00055J**	mg/L	0.0020	0.00031	1		09/18/14 14:50	179601-23-1	
o-Xylene	**0.00042J**	mg/L	0.0010	0.000094	1		09/18/14 14:50	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		09/18/14 14:50	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1		09/18/14 14:50	2037-26-5	
4-Bromofluorobenzene (S)	110	%.	75-125		1		09/18/14 14:50	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**577**	umhos/cm	1.0	1.0	1		09/18/14 09:27		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**7.2**	Std. Units	0.10	0.050	1		09/15/14 10:46		H6
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**0.26**	mg/L	0.020	0.010	1		09/16/14 16:12		
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4								
Chemical Oxygen Demand	ND	mg/L	50.0	11.2	1	09/17/14 10:31	09/18/14 15:24		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**81.0**	mg/L	12.5	6.2	5		09/19/14 11:35	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**20.7**	mg/L	1.0	0.050	1		09/15/14 10:47	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E								
Cyanide	**0.010**	mg/L	0.010	0.0050	1	09/19/14 10:48	09/19/14 14:30	57-12-5	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: BSB-GW-03-090914 **Lab ID: 10281023003** Collected: 09/09/14 09:15 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	mg/L	0.020	0.010	1		09/18/14 15:48	67-64-1	
Acetonitrile	ND	mg/L	0.10	0.0021	1		09/18/14 15:48	75-05-8	
Benzene	ND	mg/L	0.0010	0.00015	1		09/18/14 15:48	71-43-2	
Bromochloromethane	ND	mg/L	0.0010	0.00012	1		09/18/14 15:48	74-97-5	
Bromodichloromethane	ND	mg/L	0.0010	0.00020	1		09/18/14 15:48	75-27-4	
Bromoform	ND	mg/L	0.0040	0.0020	1		09/18/14 15:48	75-25-2	
Bromomethane	ND	mg/L	0.0040	0.0020	1		09/18/14 15:48	74-83-9	CL
2-Butanone (MEK)	ND	mg/L	0.0050	0.0025	1		09/18/14 15:48	78-93-3	
Carbon disulfide	ND	mg/L	0.0010	0.00020	1		09/18/14 15:48	75-15-0	
Carbon tetrachloride	ND	mg/L	0.0010	0.00016	1		09/18/14 15:48	56-23-5	
Chlorobenzene	ND	mg/L	0.0010	0.000066	1		09/18/14 15:48	108-90-7	
Chloroethane	ND	mg/L	0.0040	0.00024	1		09/18/14 15:48	75-00-3	
Chloroform	ND	mg/L	0.0010	0.00016	1		09/18/14 15:48	67-66-3	
Chloromethane	ND	mg/L	0.0040	0.00034	1		09/18/14 15:48	74-87-3	
1,2-Dibromo-3-chloropropane	ND	mg/L	0.0040	0.0020	1		09/18/14 15:48	96-12-8	
Dibromochloromethane	ND	mg/L	0.0010	0.00050	1		09/18/14 15:48	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/L	0.0010	0.00015	1		09/18/14 15:48	106-93-4	
Dibromomethane	ND	mg/L	0.0040	0.00018	1		09/18/14 15:48	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.0010	0.00016	1		09/18/14 15:48	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0010	0.00050	1		09/18/14 15:48	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.0010	0.00050	1		09/18/14 15:48	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/L	0.010	0.0050	1		09/18/14 15:48	110-57-6	
Dichlorodifluoromethane	ND	mg/L	0.0010	0.00050	1		09/18/14 15:48	75-71-8	
1,1-Dichloroethane	**0.00018J**	mg/L	0.0010	0.00016	1		09/18/14 15:48	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.0010	0.00013	1		09/18/14 15:48	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.0010	0.00020	1		09/18/14 15:48	75-35-4	
cis-1,2-Dichloroethene	**0.0014**	mg/L	0.0010	0.00013	1		09/18/14 15:48	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.0010	0.00023	1		09/18/14 15:48	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.0040	0.00014	1		09/18/14 15:48	78-87-5	
cis-1,3-Dichloropropene	ND	mg/L	0.0040	0.00013	1		09/18/14 15:48	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0040	0.00018	1		09/18/14 15:48	10061-02-6	
Ethylbenzene	ND	mg/L	0.0010	0.00016	1		09/18/14 15:48	100-41-4	
2-Hexanone	ND	mg/L	0.0050	0.0025	1		09/18/14 15:48	591-78-6	
Iodomethane	ND	mg/L	0.010	0.0020	1		09/18/14 15:48	74-88-4	CL
Methylene Chloride	ND	mg/L	0.0040	0.0020	1		09/18/14 15:48	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/L	0.0050	0.0025	1		09/18/14 15:48	108-10-1	
Styrene	ND	mg/L	0.0010	0.000063	1		09/18/14 15:48	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010	0.00050	1		09/18/14 15:48	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0010	0.00050	1		09/18/14 15:48	79-34-5	
Tetrachloroethene	**0.00060J**	mg/L	0.0010	0.00016	1		09/18/14 15:48	127-18-4	
Toluene	ND	mg/L	0.0010	0.00011	1		09/18/14 15:48	108-88-3	
1,1,1-Trichloroethane	ND	mg/L	0.0010	0.00026	1		09/18/14 15:48	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.0010	0.00013	1		09/18/14 15:48	79-00-5	
Trichloroethene	**0.00020J**	mg/L	0.00040	0.000091	1		09/18/14 15:48	79-01-6	
Trichlorofluoromethane	ND	mg/L	0.0010	0.00022	1		09/18/14 15:48	75-69-4	
1,2,3-Trichloropropane	ND	mg/L	0.0040	0.0012	1		09/18/14 15:48	96-18-4	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: BSB-GW-03-090914 Lab ID: **10281023003** Collected: 09/09/14 09:15 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl acetate	ND	mg/L	0.010	0.00021	1		09/18/14 15:48	108-05-4	
Vinyl chloride	ND	mg/L	0.00040	0.00020	1		09/18/14 15:48	75-01-4	
Xylene (Total)	ND	mg/L	0.0030	0.00040	1		09/18/14 15:48	1330-20-7	
m&p-Xylene	ND	mg/L	0.0020	0.00031	1		09/18/14 15:48	179601-23-1	
o-Xylene	ND	mg/L	0.0010	0.000094	1		09/18/14 15:48	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		09/18/14 15:48	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1		09/18/14 15:48	2037-26-5	
4-Bromofluorobenzene (S)	110	%.	75-125		1		09/18/14 15:48	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1150**	umhos/cm	1.0	1.0	1		09/18/14 09:28		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**5.4**	Std. Units	0.10	0.050	1		09/15/14 11:10		H6
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	**4.4**	mg/L	0.020	0.010	1		09/16/14 16:13		
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4								
Chemical Oxygen Demand	**13.7J**	mg/L	50.0	11.2	1	09/17/14 10:31	09/18/14 15:24		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**494**	mg/L	62.5	31.2	25		09/19/14 11:41	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**28.4**	mg/L	1.0	0.050	1		09/15/14 10:47	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E								
Cyanide	**0.011**	mg/L	0.010	0.0050	1	09/19/14 10:48	09/19/14 14:31	57-12-5	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: BSB-GW-04-090814 **Lab ID: 10281023004** Collected: 09/08/14 16:06 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	mg/L	0.020	0.010	1		09/18/14 16:02	67-64-1	
Acetonitrile	ND	mg/L	0.10	0.0021	1		09/18/14 16:02	75-05-8	
Benzene	**0.00068J**	mg/L	0.0010	0.00015	1		09/18/14 16:02	71-43-2	
Bromochloromethane	ND	mg/L	0.0010	0.00012	1		09/18/14 16:02	74-97-5	
Bromodichloromethane	ND	mg/L	0.0010	0.00020	1		09/18/14 16:02	75-27-4	
Bromoform	ND	mg/L	0.0040	0.0020	1		09/18/14 16:02	75-25-2	
Bromomethane	ND	mg/L	0.0040	0.0020	1		09/18/14 16:02	74-83-9	CL
2-Butanone (MEK)	ND	mg/L	0.0050	0.0025	1		09/18/14 16:02	78-93-3	
Carbon disulfide	ND	mg/L	0.0010	0.00020	1		09/18/14 16:02	75-15-0	
Carbon tetrachloride	ND	mg/L	0.0010	0.00016	1		09/18/14 16:02	56-23-5	
Chlorobenzene	ND	mg/L	0.0010	0.000066	1		09/18/14 16:02	108-90-7	
Chloroethane	ND	mg/L	0.0040	0.00024	1		09/18/14 16:02	75-00-3	
Chloroform	ND	mg/L	0.0010	0.00016	1		09/18/14 16:02	67-66-3	
Chloromethane	ND	mg/L	0.0040	0.00034	1		09/18/14 16:02	74-87-3	
1,2-Dibromo-3-chloropropane	ND	mg/L	0.0040	0.0020	1		09/18/14 16:02	96-12-8	
Dibromochloromethane	ND	mg/L	0.0010	0.00050	1		09/18/14 16:02	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/L	0.0010	0.00015	1		09/18/14 16:02	106-93-4	
Dibromomethane	ND	mg/L	0.0040	0.00018	1		09/18/14 16:02	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.0010	0.00016	1		09/18/14 16:02	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0010	0.00050	1		09/18/14 16:02	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.0010	0.00050	1		09/18/14 16:02	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/L	0.010	0.0050	1		09/18/14 16:02	110-57-6	
Dichlorodifluoromethane	**0.0017**	mg/L	0.0010	0.00050	1		09/18/14 16:02	75-71-8	
1,1-Dichloroethane	**0.0019**	mg/L	0.0010	0.00016	1		09/18/14 16:02	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.0010	0.00013	1		09/18/14 16:02	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.0010	0.00020	1		09/18/14 16:02	75-35-4	
cis-1,2-Dichloroethene	**0.0021**	mg/L	0.0010	0.00013	1		09/18/14 16:02	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.0010	0.00023	1		09/18/14 16:02	156-60-5	
1,2-Dichloropropane	**0.00054J**	mg/L	0.0040	0.00014	1		09/18/14 16:02	78-87-5	
cis-1,3-Dichloropropene	ND	mg/L	0.0040	0.00013	1		09/18/14 16:02	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0040	0.00018	1		09/18/14 16:02	10061-02-6	
Ethylbenzene	**0.00047J**	mg/L	0.0010	0.00016	1		09/18/14 16:02	100-41-4	
2-Hexanone	ND	mg/L	0.0050	0.0025	1		09/18/14 16:02	591-78-6	
Iodomethane	ND	mg/L	0.010	0.0020	1		09/18/14 16:02	74-88-4	CL
Methylene Chloride	ND	mg/L	0.0040	0.0020	1		09/18/14 16:02	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/L	0.0050	0.0025	1		09/18/14 16:02	108-10-1	
Styrene	ND	mg/L	0.0010	0.000063	1		09/18/14 16:02	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010	0.00050	1		09/18/14 16:02	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0010	0.00050	1		09/18/14 16:02	79-34-5	
Tetrachloroethene	**0.00028J**	mg/L	0.0010	0.00016	1		09/18/14 16:02	127-18-4	
Toluene	**0.00019J**	mg/L	0.0010	0.00011	1		09/18/14 16:02	108-88-3	
1,1,1-Trichloroethane	ND	mg/L	0.0010	0.00026	1		09/18/14 16:02	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.0010	0.00013	1		09/18/14 16:02	79-00-5	
Trichloroethene	**0.00025J**	mg/L	0.00040	0.000091	1		09/18/14 16:02	79-01-6	
Trichlorofluoromethane	ND	mg/L	0.0010	0.00022	1		09/18/14 16:02	75-69-4	
1,2,3-Trichloropropane	ND	mg/L	0.0040	0.0012	1		09/18/14 16:02	96-18-4	

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ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: BSB-GW-04-090814 **Lab ID: 10281023004** Collected: 09/08/14 16:06 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl acetate	ND	mg/L	0.010	0.00021	1		09/18/14 16:02	108-05-4	
Vinyl chloride	**0.0017**	mg/L	0.00040	0.00020	1		09/18/14 16:02	75-01-4	
Xylene (Total)	**0.0011J**	mg/L	0.0030	0.00040	1		09/18/14 16:02	1330-20-7	
m&p-Xylene	**0.0012J**	mg/L	0.0020	0.00031	1		09/18/14 16:02	179601-23-1	
o-Xylene	**0.0011**	mg/L	0.0010	0.000094	1		09/18/14 16:02	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		09/18/14 16:02	17060-07-0	
Toluene-d8 (S)	102	%.	75-125		1		09/18/14 16:02	2037-26-5	
4-Bromofluorobenzene (S)	108	%.	75-125		1		09/18/14 16:02	460-00-4	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**2680**	umhos/cm	1.0	1.0	1		09/18/14 09:29		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**5.9**	Std. Units	0.10	0.050	1		09/15/14 11:01		H6
353.2 Nitrate + Nitrite pres.	Analytical Method: EPA 353.2								
Nitrogen, NO2 plus NO3	ND	mg/L	0.020	0.010	1		09/16/14 16:14		
410.4 COD	Analytical Method: EPA 410.4 Preparation Method: EPA 410.4								
Chemical Oxygen Demand	**287**	mg/L	50.0	11.2	1	09/17/14 10:31	09/18/14 15:24		
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**1160**	mg/L	125	62.5	50		09/19/14 11:55	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**70.8**	mg/L	5.0	0.25	5		09/15/14 11:22	16887-00-6	
SM4500CN-E Cyanide	Analytical Method: SM 4500-CN-E Preparation Method: SM 4500-CN-E								
Cyanide	**0.019**	mg/L	0.010	0.0050	1	09/19/14 10:48	09/19/14 14:31	57-12-5	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: BSB-GW-07-090814 **Lab ID: 10281023005** Collected: 09/08/14 16:15 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	mg/L	0.020	0.010	1		09/18/14 16:16	67-64-1	
Acetonitrile	ND	mg/L	0.10	0.0021	1		09/18/14 16:16	75-05-8	
Benzene	**0.00059J**	mg/L	0.0010	0.00015	1		09/18/14 16:16	71-43-2	
Bromochloromethane	ND	mg/L	0.0010	0.00012	1		09/18/14 16:16	74-97-5	
Bromodichloromethane	ND	mg/L	0.0010	0.00020	1		09/18/14 16:16	75-27-4	
Bromoform	ND	mg/L	0.0040	0.0020	1		09/18/14 16:16	75-25-2	
Bromomethane	ND	mg/L	0.0040	0.0020	1		09/18/14 16:16	74-83-9	CL
2-Butanone (MEK)	ND	mg/L	0.0050	0.0025	1		09/18/14 16:16	78-93-3	
Carbon disulfide	ND	mg/L	0.0010	0.00020	1		09/18/14 16:16	75-15-0	
Carbon tetrachloride	ND	mg/L	0.0010	0.00016	1		09/18/14 16:16	56-23-5	
Chlorobenzene	ND	mg/L	0.0010	0.000066	1		09/18/14 16:16	108-90-7	
Chloroethane	ND	mg/L	0.0040	0.00024	1		09/18/14 16:16	75-00-3	
Chloroform	ND	mg/L	0.0010	0.00016	1		09/18/14 16:16	67-66-3	
Chloromethane	ND	mg/L	0.0040	0.00034	1		09/18/14 16:16	74-87-3	
1,2-Dibromo-3-chloropropane	ND	mg/L	0.0040	0.0020	1		09/18/14 16:16	96-12-8	
Dibromochloromethane	ND	mg/L	0.0010	0.00050	1		09/18/14 16:16	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/L	0.0010	0.00015	1		09/18/14 16:16	106-93-4	
Dibromomethane	ND	mg/L	0.0040	0.00018	1		09/18/14 16:16	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.0010	0.00016	1		09/18/14 16:16	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0010	0.00050	1		09/18/14 16:16	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.0010	0.00050	1		09/18/14 16:16	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/L	0.010	0.0050	1		09/18/14 16:16	110-57-6	
Dichlorodifluoromethane	**0.0018**	mg/L	0.0010	0.00050	1		09/18/14 16:16	75-71-8	
1,1-Dichloroethane	**0.0019**	mg/L	0.0010	0.00016	1		09/18/14 16:16	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.0010	0.00013	1		09/18/14 16:16	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.0010	0.00020	1		09/18/14 16:16	75-35-4	
cis-1,2-Dichloroethene	**0.0022**	mg/L	0.0010	0.00013	1		09/18/14 16:16	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.0010	0.00023	1		09/18/14 16:16	156-60-5	
1,2-Dichloropropane	**0.00064J**	mg/L	0.0040	0.00014	1		09/18/14 16:16	78-87-5	
cis-1,3-Dichloropropene	ND	mg/L	0.0040	0.00013	1		09/18/14 16:16	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0040	0.00018	1		09/18/14 16:16	10061-02-6	
Ethylbenzene	**0.00040J**	mg/L	0.0010	0.00016	1		09/18/14 16:16	100-41-4	
2-Hexanone	ND	mg/L	0.0050	0.0025	1		09/18/14 16:16	591-78-6	
Iodomethane	ND	mg/L	0.010	0.0020	1		09/18/14 16:16	74-88-4	CL
Methylene Chloride	ND	mg/L	0.0040	0.0020	1		09/18/14 16:16	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/L	0.0050	0.0025	1		09/18/14 16:16	108-10-1	
Styrene	ND	mg/L	0.0010	0.000063	1		09/18/14 16:16	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010	0.00050	1		09/18/14 16:16	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0010	0.00050	1		09/18/14 16:16	79-34-5	
Tetrachloroethene	**0.00038J**	mg/L	0.0010	0.00016	1		09/18/14 16:16	127-18-4	
Toluene	**0.00016J**	mg/L	0.0010	0.00011	1		09/18/14 16:16	108-88-3	
1,1,1-Trichloroethane	ND	mg/L	0.0010	0.00026	1		09/18/14 16:16	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.0010	0.00013	1		09/18/14 16:16	79-00-5	
Trichloroethene	**0.00031J**	mg/L	0.00040	0.000091	1		09/18/14 16:16	79-01-6	
Trichlorofluoromethane	ND	mg/L	0.0010	0.00022	1		09/18/14 16:16	75-69-4	
1,2,3-Trichloropropane	ND	mg/L	0.0040	0.0012	1		09/18/14 16:16	96-18-4	

ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: BSB-GW-07-090814 **Lab ID: 10281023005** Collected: 09/08/14 16:15 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl acetate	ND	mg/L	0.010	0.00021	1		09/18/14 16:16	108-05-4	
Vinyl chloride	**0.0014**	mg/L	0.00040	0.00020	1		09/18/14 16:16	75-01-4	
Xylene (Total)	ND	mg/L	0.0030	0.00040	1		09/18/14 16:16	1330-20-7	
m&p-Xylene	**0.0011J**	mg/L	0.0020	0.00031	1		09/18/14 16:16	179601-23-1	
o-Xylene	**0.00087J**	mg/L	0.0010	0.000094	1		09/18/14 16:16	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	103	%.	75-125		1		09/18/14 16:16	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1		09/18/14 16:16	2037-26-5	
4-Bromofluorobenzene (S)	108	%.	75-125		1		09/18/14 16:16	460-00-4	

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ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: TRIP BLANK **Lab ID: 10281023006** Collected: 09/08/14 00:00 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Acetone	ND	mg/L	0.020	0.010	1		09/18/14 14:22	67-64-1	
Acetonitrile	ND	mg/L	0.10	0.0021	1		09/18/14 14:22	75-05-8	
Benzene	ND	mg/L	0.0010	0.00015	1		09/18/14 14:22	71-43-2	
Bromochloromethane	ND	mg/L	0.0010	0.00012	1		09/18/14 14:22	74-97-5	
Bromodichloromethane	ND	mg/L	0.0010	0.00020	1		09/18/14 14:22	75-27-4	
Bromoform	ND	mg/L	0.0040	0.0020	1		09/18/14 14:22	75-25-2	
Bromomethane	ND	mg/L	0.0040	0.0020	1		09/18/14 14:22	74-83-9	CL
2-Butanone (MEK)	ND	mg/L	0.0050	0.0025	1		09/18/14 14:22	78-93-3	
Carbon disulfide	ND	mg/L	0.0010	0.00020	1		09/18/14 14:22	75-15-0	
Carbon tetrachloride	ND	mg/L	0.0010	0.00016	1		09/18/14 14:22	56-23-5	
Chlorobenzene	ND	mg/L	0.0010	0.000066	1		09/18/14 14:22	108-90-7	
Chloroethane	ND	mg/L	0.0040	0.00024	1		09/18/14 14:22	75-00-3	
Chloroform	ND	mg/L	0.0010	0.00016	1		09/18/14 14:22	67-66-3	
Chloromethane	ND	mg/L	0.0040	0.00034	1		09/18/14 14:22	74-87-3	
1,2-Dibromo-3-chloropropane	ND	mg/L	0.0040	0.0020	1		09/18/14 14:22	96-12-8	
Dibromochloromethane	ND	mg/L	0.0010	0.00050	1		09/18/14 14:22	124-48-1	
1,2-Dibromoethane (EDB)	ND	mg/L	0.0010	0.00015	1		09/18/14 14:22	106-93-4	
Dibromomethane	ND	mg/L	0.0040	0.00018	1		09/18/14 14:22	74-95-3	
1,2-Dichlorobenzene	ND	mg/L	0.0010	0.00016	1		09/18/14 14:22	95-50-1	
1,3-Dichlorobenzene	ND	mg/L	0.0010	0.00050	1		09/18/14 14:22	541-73-1	
1,4-Dichlorobenzene	ND	mg/L	0.0010	0.00050	1		09/18/14 14:22	106-46-7	
trans-1,4-Dichloro-2-butene	ND	mg/L	0.010	0.0050	1		09/18/14 14:22	110-57-6	
Dichlorodifluoromethane	ND	mg/L	0.0010	0.00050	1		09/18/14 14:22	75-71-8	
1,1-Dichloroethane	ND	mg/L	0.0010	0.00016	1		09/18/14 14:22	75-34-3	
1,2-Dichloroethane	ND	mg/L	0.0010	0.00013	1		09/18/14 14:22	107-06-2	
1,1-Dichloroethene	ND	mg/L	0.0010	0.00020	1		09/18/14 14:22	75-35-4	
cis-1,2-Dichloroethene	ND	mg/L	0.0010	0.00013	1		09/18/14 14:22	156-59-2	
trans-1,2-Dichloroethene	ND	mg/L	0.0010	0.00023	1		09/18/14 14:22	156-60-5	
1,2-Dichloropropane	ND	mg/L	0.0040	0.00014	1		09/18/14 14:22	78-87-5	
cis-1,3-Dichloropropene	ND	mg/L	0.0040	0.00013	1		09/18/14 14:22	10061-01-5	
trans-1,3-Dichloropropene	ND	mg/L	0.0040	0.00018	1		09/18/14 14:22	10061-02-6	
Ethylbenzene	ND	mg/L	0.0010	0.00016	1		09/18/14 14:22	100-41-4	
2-Hexanone	ND	mg/L	0.0050	0.0025	1		09/18/14 14:22	591-78-6	
Iodomethane	ND	mg/L	0.010	0.0020	1		09/18/14 14:22	74-88-4	CL
Methylene Chloride	ND	mg/L	0.0040	0.0020	1		09/18/14 14:22	75-09-2	
4-Methyl-2-pentanone (MIBK)	ND	mg/L	0.0050	0.0025	1		09/18/14 14:22	108-10-1	
Styrene	ND	mg/L	0.0010	0.000063	1		09/18/14 14:22	100-42-5	
1,1,1,2-Tetrachloroethane	ND	mg/L	0.0010	0.00050	1		09/18/14 14:22	630-20-6	
1,1,2,2-Tetrachloroethane	ND	mg/L	0.0010	0.00050	1		09/18/14 14:22	79-34-5	
Tetrachloroethene	ND	mg/L	0.0010	0.00016	1		09/18/14 14:22	127-18-4	
Toluene	ND	mg/L	0.0010	0.00011	1		09/18/14 14:22	108-88-3	
1,1,1-Trichloroethane	ND	mg/L	0.0010	0.00026	1		09/18/14 14:22	71-55-6	
1,1,2-Trichloroethane	ND	mg/L	0.0010	0.00013	1		09/18/14 14:22	79-00-5	
Trichloroethene	ND	mg/L	0.00040	0.000091	1		09/18/14 14:22	79-01-6	
Trichlorofluoromethane	ND	mg/L	0.0010	0.00022	1		09/18/14 14:22	75-69-4	
1,2,3-Trichloropropane	ND	mg/L	0.0040	0.0012	1		09/18/14 14:22	96-18-4	

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ANALYTICAL RESULTS

Project: OLD LANDFILL
Pace Project No.: 10281023

Sample: TRIP BLANK **Lab ID: 10281023006** Collected: 09/08/14 00:00 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Vinyl acetate	ND	mg/L	0.010	0.00021	1		09/18/14 14:22	108-05-4	
Vinyl chloride	ND	mg/L	0.00040	0.00020	1		09/18/14 14:22	75-01-4	
Xylene (Total)	ND	mg/L	0.0030	0.00040	1		09/18/14 14:22	1330-20-7	
m&p-Xylene	ND	mg/L	0.0020	0.00031	1		09/18/14 14:22	179601-23-1	
o-Xylene	ND	mg/L	0.0010	0.000094	1		09/18/14 14:22	95-47-6	
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%.	75-125		1		09/18/14 14:22	17060-07-0	
Toluene-d8 (S)	101	%.	75-125		1		09/18/14 14:22	2037-26-5	
4-Bromofluorobenzene (S)	109	%.	75-125		1		09/18/14 14:22	460-00-4	

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

QC Batch: MPRP/49085
QC Batch Method: EPA 200.8
Associated Lab Samples: 10281023001
Analysis Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved

METHOD BLANK: 1790657
Matrix: Water
Associated Lab Samples: 10281023001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.00050	09/18/14 01:44	
Arsenic, Dissolved	mg/L	ND	0.00050	09/18/14 01:44	
Barium, Dissolved	mg/L	ND	0.00030	09/18/14 01:44	
Beryllium, Dissolved	mg/L	ND	0.00020	09/18/14 01:44	
Cadmium, Dissolved	mg/L	ND	0.000080	09/18/14 01:44	
Chromium, Dissolved	mg/L	ND	0.00050	09/18/14 01:44	
Cobalt, Dissolved	mg/L	ND	0.00050	09/18/14 01:44	
Copper, Dissolved	mg/L	ND	0.0010	09/18/14 01:44	
Iron, Dissolved	mg/L	ND	0.050	09/18/14 01:44	
Lead, Dissolved	mg/L	ND	0.00010	09/18/14 01:44	
Nickel, Dissolved	mg/L	ND	0.00050	09/18/14 01:44	
Selenium, Dissolved	mg/L	ND	0.00050	09/18/14 01:44	
Vanadium, Dissolved	mg/L	ND	0.0010	09/18/14 01:44	
Zinc, Dissolved	mg/L	ND	0.0050	09/18/14 01:44	

LABORATORY CONTROL SAMPLE: 1790658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	.08	0.081	102	85-115	
Arsenic, Dissolved	mg/L	.08	0.081	102	85-115	
Barium, Dissolved	mg/L	.08	0.080	100	85-115	
Beryllium, Dissolved	mg/L	.08	0.082	102	85-115	
Cadmium, Dissolved	mg/L	.08	0.081	102	85-115	
Chromium, Dissolved	mg/L	.08	0.084	105	85-115	
Cobalt, Dissolved	mg/L	.08	0.081	102	85-115	
Copper, Dissolved	mg/L	.08	0.083	104	85-115	
Iron, Dissolved	mg/L	1	1.0	104	85-115	
Lead, Dissolved	mg/L	.08	0.082	103	85-115	
Nickel, Dissolved	mg/L	.08	0.083	103	85-115	
Selenium, Dissolved	mg/L	.08	0.080	100	85-115	
Vanadium, Dissolved	mg/L	.08	0.083	103	85-115	
Zinc, Dissolved	mg/L	.08	0.083	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1790889 1790890

Parameter	Units	10280884002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	mg/L	ND	.08	.08	0.083	0.082	104	102	70-130	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1790889 1790890

Parameter	Units	10280884002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	0.12	.08	.08	0.20	0.19	100	92	70-130	3	20	
Barium, Dissolved	mg/L	0.023	.08	.08	0.11	0.10	105	102	70-130	2	20	
Beryllium, Dissolved	mg/L	0.00025	.08	.08	0.084	0.083	105	103	70-130	2	20	
Cadmium, Dissolved	mg/L	0.013	.08	.08	0.095	0.093	103	100	70-130	2	20	
Chromium, Dissolved	mg/L	ND	.08	.08	0.083	0.081	103	102	70-130	2	20	
Cobalt, Dissolved	mg/L	0.045	.08	.08	0.12	0.12	99	93	70-130	4	20	
Copper, Dissolved	mg/L	0.00054J	.08	.08	0.078	0.076	96	95	70-130	2	20	
Iron, Dissolved	mg/L	16.1	1	1	17.6	17.0	152	88	70-130	4	20	M1
Lead, Dissolved	mg/L	ND	.08	.08	0.085	0.083	106	104	70-130	2	20	
Nickel, Dissolved	mg/L	0.036	.08	.08	0.11	0.11	97	95	70-130	2	20	
Selenium, Dissolved	mg/L	ND	.08	.08	0.081	0.079	101	98	70-130	3	20	
Vanadium, Dissolved	mg/L	ND	.08	.08	0.082	0.081	102	101	70-130	1	20	
Zinc, Dissolved	mg/L	53.4	.08	.08	47.4	45.2	-7580	-10200	70-130	5	20	E,M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project:	OLD LANDFILL
Pace Project No.:	10281023

QC Batch: MSV/28600
Analysis Method: EPA 8260
QC Batch Method: EPA 8260
Analysis Description: 8260 MSV
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004, 10281023005, 10281023006

METHOD BLANK: 1792827
Matrix: Water
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004, 10281023005, 10281023006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	mg/L	ND	0.0010	09/18/14 13:53	
1,1,1-Trichloroethane	mg/L	ND	0.0010	09/18/14 13:53	
1,1,2,2-Tetrachloroethane	mg/L	ND	0.0010	09/18/14 13:53	
1,1,2-Trichloroethane	mg/L	ND	0.0010	09/18/14 13:53	
1,1-Dichloroethane	mg/L	ND	0.0010	09/18/14 13:53	
1,1-Dichloroethene	mg/L	ND	0.0010	09/18/14 13:53	
1,2,3-Trichloropropane	mg/L	ND	0.0040	09/18/14 13:53	
1,2-Dibromo-3-chloropropane	mg/L	ND	0.0040	09/18/14 13:53	
1,2-Dibromoethane (EDB)	mg/L	ND	0.0010	09/18/14 13:53	
1,2-Dichlorobenzene	mg/L	ND	0.0010	09/18/14 13:53	
1,2-Dichloroethane	mg/L	ND	0.0010	09/18/14 13:53	
1,2-Dichloropropane	mg/L	ND	0.0040	09/18/14 13:53	
1,3-Dichlorobenzene	mg/L	ND	0.0010	09/18/14 13:53	
1,4-Dichlorobenzene	mg/L	ND	0.0010	09/18/14 13:53	
2-Butanone (MEK)	mg/L	ND	0.0050	09/18/14 13:53	
2-Hexanone	mg/L	ND	0.0050	09/18/14 13:53	
4-Methyl-2-pentanone (MIBK)	mg/L	ND	0.0050	09/18/14 13:53	
Acetone	mg/L	ND	0.020	09/18/14 13:53	
Acetonitrile	mg/L	ND	0.10	09/18/14 13:53	
Benzene	mg/L	ND	0.0010	09/18/14 13:53	
Bromochloromethane	mg/L	ND	0.0010	09/18/14 13:53	
Bromodichloromethane	mg/L	ND	0.0010	09/18/14 13:53	
Bromoform	mg/L	ND	0.0040	09/18/14 13:53	
Bromomethane	mg/L	ND	0.0040	09/18/14 13:53	CL
Carbon disulfide	mg/L	0.00029J	0.0010	09/18/14 13:53	
Carbon tetrachloride	mg/L	ND	0.0010	09/18/14 13:53	
Chlorobenzene	mg/L	ND	0.0010	09/18/14 13:53	
Chloroethane	mg/L	ND	0.0040	09/18/14 13:53	
Chloroform	mg/L	ND	0.0010	09/18/14 13:53	
Chloromethane	mg/L	ND	0.0040	09/18/14 13:53	
cis-1,2-Dichloroethene	mg/L	ND	0.0010	09/18/14 13:53	
cis-1,3-Dichloropropene	mg/L	ND	0.0040	09/18/14 13:53	
Dibromochloromethane	mg/L	ND	0.0010	09/18/14 13:53	
Dibromomethane	mg/L	ND	0.0040	09/18/14 13:53	
Dichlorodifluoromethane	mg/L	ND	0.0010	09/18/14 13:53	
Ethylbenzene	mg/L	ND	0.0010	09/18/14 13:53	
Iodomethane	mg/L	ND	0.010	09/18/14 13:53	CL
m&p-Xylene	mg/L	ND	0.0020	09/18/14 13:53	
Methylene Chloride	mg/L	ND	0.0040	09/18/14 13:53	
o-Xylene	mg/L	ND	0.0010	09/18/14 13:53	
Styrene	mg/L	ND	0.0010	09/18/14 13:53	

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QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

METHOD BLANK: 1792827 Matrix: Water
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004, 10281023005, 10281023006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Tetrachloroethene	mg/L	ND	0.0010	09/18/14 13:53	
Toluene	mg/L	ND	0.0010	09/18/14 13:53	
trans-1,2-Dichloroethene	mg/L	ND	0.0010	09/18/14 13:53	
trans-1,3-Dichloropropene	mg/L	ND	0.0040	09/18/14 13:53	
trans-1,4-Dichloro-2-butene	mg/L	ND	0.010	09/18/14 13:53	
Trichloroethene	mg/L	ND	0.00040	09/18/14 13:53	
Trichlorofluoromethane	mg/L	ND	0.0010	09/18/14 13:53	
Vinyl acetate	mg/L	ND	0.010	09/18/14 13:53	
Vinyl chloride	mg/L	ND	0.00040	09/18/14 13:53	
Xylene (Total)	mg/L	ND	0.0030	09/18/14 13:53	
1,2-Dichloroethane-d4 (S)	%.	102	75-125	09/18/14 13:53	
4-Bromofluorobenzene (S)	%.	109	75-125	09/18/14 13:53	
Toluene-d8 (S)	%.	100	75-125	09/18/14 13:53	

LABORATORY CONTROL SAMPLE: 1792828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	mg/L	.02	0.021	104	75-125	
1,1,1-Trichloroethane	mg/L	.02	0.021	106	73-125	
1,1,2,2-Tetrachloroethane	mg/L	.02	0.021	103	74-125	
1,1,2-Trichloroethane	mg/L	.02	0.021	105	75-125	
1,1-Dichloroethane	mg/L	.02	0.022	112	75-125	
1,1-Dichloroethene	mg/L	.02	0.023	114	70-125	
1,2,3-Trichloropropane	mg/L	.02	0.021	105	75-125	
1,2-Dibromo-3-chloropropane	mg/L	.05	0.048	95	70-125	
1,2-Dibromoethane (EDB)	mg/L	.02	0.020	100	75-125	
1,2-Dichlorobenzene	mg/L	.02	0.019	94	75-125	
1,2-Dichloroethane	mg/L	.02	0.020	101	75-125	
1,2-Dichloropropane	mg/L	.02	0.020	101	75-125	
1,3-Dichlorobenzene	mg/L	.02	0.019	96	75-125	
1,4-Dichlorobenzene	mg/L	.02	0.020	101	75-125	
2-Butanone (MEK)	mg/L	.1	0.10	104	64-126	
2-Hexanone	mg/L	.1	0.10	104	69-127	
4-Methyl-2-pentanone (MIBK)	mg/L	.1	0.10	104	71-125	
Acetone	mg/L	.1	0.10	100	66-131	
Acetonitrile	mg/L	.2	0.20	100	58-133	
Benzene	mg/L	.02	0.022	110	75-125	
Bromochloromethane	mg/L	.02	0.022	109	75-125	
Bromodichloromethane	mg/L	.02	0.022	108	75-125	
Bromoform	mg/L	.02	0.018	90	70-125	
Bromomethane	mg/L	.02	0.0097	49	30-150	CL
Carbon disulfide	mg/L	.02	0.021	107	60-125	
Carbon tetrachloride	mg/L	.02	0.022	109	68-129	
Chlorobenzene	mg/L	.02	0.020	100	75-125	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

LABORATORY CONTROL SAMPLE: 1792828

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloroethane	mg/L	.02	0.025	123	68-133	
Chloroform	mg/L	.02	0.021	104	75-125	
Chloromethane	mg/L	.02	0.020	99	57-140	
cis-1,2-Dichloroethene	mg/L	.02	0.023	116	75-125	
cis-1,3-Dichloropropene	mg/L	.02	0.021	105	75-125	
Dibromochloromethane	mg/L	.02	0.021	105	75-125	
Dibromomethane	mg/L	.02	0.020	99	75-125	
Dichlorodifluoromethane	mg/L	.02	0.022	111	50-134	
Ethylbenzene	mg/L	.02	0.020	101	75-125	
Iodomethane	mg/L	.02	0.0067J	34	30-150	CL
m&p-Xylene	mg/L	.04	0.041	103	75-125	
Methylene Chloride	mg/L	.02	0.022	108	75-125	
o-Xylene	mg/L	.02	0.021	104	75-125	
Styrene	mg/L	.02	0.021	107	75-125	
Tetrachloroethene	mg/L	.02	0.019	93	71-125	
Toluene	mg/L	.02	0.020	102	75-125	
trans-1,2-Dichloroethene	mg/L	.02	0.022	108	73-125	
trans-1,3-Dichloropropene	mg/L	.02	0.021	107	75-125	
trans-1,4-Dichloro-2-butene	mg/L	.05	0.040	81	63-127	
Trichloroethene	mg/L	.02	0.020	101	75-125	
Trichlorofluoromethane	mg/L	.02	0.022	112	70-128	
Vinyl acetate	mg/L	.02	0.023	117	59-131	
Vinyl chloride	mg/L	.02	0.022	108	70-130	
Xylene (Total)	mg/L	.06	0.062	103	75-125	
1,2-Dichloroethane-d4 (S)	%.			99	75-125	
4-Bromofluorobenzene (S)	%.			105	75-125	
Toluene-d8 (S)	%.			98	75-125	

MATRIX SPIKE SAMPLE: 1794130

Parameter	Units	10281023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	mg/L	ND	.02	0.019	97	74-131	
1,1,1-Trichloroethane	mg/L	ND	.02	0.022	108	73-139	
1,1,2,2-Tetrachloroethane	mg/L	ND	.02	0.020	99	72-125	
1,1,2-Trichloroethane	mg/L	ND	.02	0.021	104	75-125	
1,1-Dichloroethane	mg/L	ND	.02	0.022	108	73-132	
1,1-Dichloroethene	mg/L	ND	.02	0.021	105	71-142	
1,2,3-Trichloropropane	mg/L	ND	.02	0.021	103	74-125	
1,2-Dibromo-3-chloropropane	mg/L	ND	.05	0.042	85	66-127	
1,2-Dibromoethane (EDB)	mg/L	ND	.02	0.018	91	75-125	
1,2-Dichlorobenzene	mg/L	ND	.02	0.019	93	75-125	
1,2-Dichloroethane	mg/L	ND	.02	0.019	96	68-128	
1,2-Dichloropropane	mg/L	ND	.02	0.021	104	74-131	
1,3-Dichlorobenzene	mg/L	ND	.02	0.019	94	73-125	
1,4-Dichlorobenzene	mg/L	ND	.02	0.019	97	73-125	

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QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

MATRIX SPIKE SAMPLE: 1794130

Parameter	Units	10281023001 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
2-Butanone (MEK)	mg/L	ND	.1	0.094	94	56-140	
2-Hexanone	mg/L	ND	.1	0.093	93	63-132	
4-Methyl-2-pentanone (MIBK)	mg/L	ND	.1	0.096	96	69-128	
Acetone	mg/L	ND	.1	0.097	89	57-143	
Acetonitrile	mg/L	ND	.2	0.18	89	56-134	
Benzene	mg/L	ND	.02	0.020	100	75-129	
Bromochloromethane	mg/L	ND	.02	0.020	100	75-126	
Bromodichloromethane	mg/L	ND	.02	0.021	106	75-128	
Bromoform	mg/L	ND	.02	0.017	86	66-130	
Bromomethane	mg/L	ND	.02	0.0084	42	30-150	CL
Carbon disulfide	mg/L	0.00020J	.02	0.013	66	56-140	
Carbon tetrachloride	mg/L	ND	.02	0.021	104	69-148	
Chlorobenzene	mg/L	ND	.02	0.020	99	75-125	
Chloroethane	mg/L	ND	.02	0.024	120	71-143	
Chloroform	mg/L	0.00049J	.02	0.020	97	75-126	
Chloromethane	mg/L	ND	.02	0.018	92	55-150	
cis-1,2-Dichloroethene	mg/L	ND	.02	0.021	107	75-130	
cis-1,3-Dichloropropene	mg/L	ND	.02	0.019	97	72-129	
Dibromochloromethane	mg/L	ND	.02	0.020	99	73-129	
Dibromomethane	mg/L	ND	.02	0.018	88	75-125	
Dichlorodifluoromethane	mg/L	ND	.02	0.025	124	70-150	
Ethylbenzene	mg/L	ND	.02	0.020	98	75-128	
Iodomethane	mg/L	ND	.02	0.0037J	18	30-150	CL,M1
m&p-Xylene	mg/L	0.00035J	.04	0.040	99	75-130	
Methylene Chloride	mg/L	ND	.02	0.020	99	69-125	
o-Xylene	mg/L	0.00025J	.02	0.021	102	75-128	
Styrene	mg/L	ND	.02	0.020	100	75-128	
Tetrachloroethene	mg/L	ND	.02	0.017	87	68-140	
Toluene	mg/L	ND	.02	0.019	95	75-129	
trans-1,2-Dichloroethene	mg/L	ND	.02	0.020	98	70-136	
trans-1,3-Dichloropropene	mg/L	ND	.02	0.019	96	71-125	
trans-1,4-Dichloro-2-butene	mg/L	ND	.05	0.035	70	57-136	
Trichloroethene	mg/L	ND	.02	0.019	95	72-135	
Trichlorofluoromethane	mg/L	ND	.02	0.025	124	75-150	
Vinyl acetate	mg/L	ND	.02	0.021	106	55-132	
Vinyl chloride	mg/L	ND	.02	0.023	115	73-150	
Xylene (Total)	mg/L	ND	.06	0.061	101	75-129	
1,2-Dichloroethane-d4 (S)	%.				96	75-125	
4-Bromofluorobenzene (S)	%.				106	75-125	
Toluene-d8 (S)	%.				99	75-125	

SAMPLE DUPLICATE: 1794131

Parameter	Units	10281023002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	mg/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

SAMPLE DUPLICATE: 1794131

Parameter	Units	10281023002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	mg/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	mg/L	ND	ND		30	
1,1,2-Trichloroethane	mg/L	ND	ND		30	
1,1-Dichloroethane	mg/L	ND	ND		30	
1,1-Dichloroethene	mg/L	ND	ND		30	
1,2,3-Trichloropropane	mg/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	mg/L	ND	ND		30	
1,2-Dibromoethane (EDB)	mg/L	ND	ND		30	
1,2-Dichlorobenzene	mg/L	ND	ND		30	
1,2-Dichloroethane	mg/L	ND	ND		30	
1,2-Dichloropropane	mg/L	ND	ND		30	
1,3-Dichlorobenzene	mg/L	ND	ND		30	
1,4-Dichlorobenzene	mg/L	ND	ND		30	
2-Butanone (MEK)	mg/L	ND	ND		30	
2-Hexanone	mg/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	mg/L	ND	ND		30	
Acetone	mg/L	ND	ND		30	
Acetonitrile	mg/L	ND	ND		30	
Benzene	mg/L	ND	ND		30	
Bromochloromethane	mg/L	ND	ND		30	
Bromodichloromethane	mg/L	ND	ND		30	
Bromoform	mg/L	ND	ND		30	
Bromomethane	mg/L	ND	ND		30	CL
Carbon disulfide	mg/L	ND	ND		30	
Carbon tetrachloride	mg/L	ND	ND		30	
Chlorobenzene	mg/L	ND	ND		30	
Chloroethane	mg/L	ND	ND		30	
Chloroform	mg/L	ND	ND		30	
Chloromethane	mg/L	ND	ND		30	
cis-1,2-Dichloroethene	mg/L	ND	0.00019J		30	
cis-1,3-Dichloropropene	mg/L	ND	ND		30	
Dibromochloromethane	mg/L	ND	ND		30	
Dibromomethane	mg/L	ND	ND		30	
Dichlorodifluoromethane	mg/L	ND	ND		30	
Ethylbenzene	mg/L	0.00021J	0.00019J		30	
Iodomethane	mg/L	ND	ND		30	CL
m&p-Xylene	mg/L	0.00055J	0.00047J		30	
Methylene Chloride	mg/L	ND	ND		30	
o-Xylene	mg/L	0.00042J	0.00042J		30	
Styrene	mg/L	ND	ND		30	
Tetrachloroethene	mg/L	ND	0.00029J		30	
Toluene	mg/L	ND	ND		30	
trans-1,2-Dichloroethene	mg/L	ND	ND		30	
trans-1,3-Dichloropropene	mg/L	ND	ND		30	
trans-1,4-Dichloro-2-butene	mg/L	ND	ND		30	
Trichloroethene	mg/L	ND	0.00016J		30	
Trichlorofluoromethane	mg/L	ND	ND		30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

SAMPLE DUPLICATE: 1794131

Parameter	Units	10281023002 Result	Dup Result	RPD	Max RPD	Qualifiers
Vinyl acetate	mg/L	ND	ND		30	
Vinyl chloride	mg/L	ND	ND		30	
Xylene (Total)	mg/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%.	103	101	2		
4-Bromofluorobenzene (S)	%.	110	106	4		
Toluene-d8 (S)	%.	101	101	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

QC Batch: WET/38157
QC Batch Method: EPA 120.1
Analysis Method: EPA 120.1
Analysis Description: 120.1 Specific Conductance
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

METHOD BLANK: 1792049
Matrix: Water
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	1.0	09/18/14 09:17	

LABORATORY CONTROL SAMPLE: 1792050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	1050	105	90-110	

SAMPLE DUPLICATE: 1792051

Parameter	Units	10280632002 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	475	472	1	20	

SAMPLE DUPLICATE: 1792052

Parameter	Units	10281525004 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1320	1310	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

QC Batch: WET/38097
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

LABORATORY CONTROL SAMPLE: 1788469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.1	102	98-102	H6

SAMPLE DUPLICATE: 1788470

Parameter	Units	10280816001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.6	8.6	0	3	H6

SAMPLE DUPLICATE: 1788471

Parameter	Units	10280884004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.7	1	3	H6

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

QC Batch: WETA/20200
Analysis Method: EPA 353.2
QC Batch Method: EPA 353.2
Analysis Description: 353.2 Nitrate + Nitrite, preserved
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

METHOD BLANK: 1789340
Matrix: Water
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	ND	0.020	09/16/14 15:53	

LABORATORY CONTROL SAMPLE: 1789341

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Nitrogen, NO2 plus NO3	mg/L	2.5	2.5	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1789342 1789343

Parameter	Units	10281063001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.87	2.5	2.5	3.5	3.4	104	103	90-110	1	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1789344 1789345

Parameter	Units	10281376012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Nitrogen, NO2 plus NO3	mg/L	0.061	2.5	2.5	2.7	2.7	105	104	90-110	1	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

QC Batch: WETA/20204
QC Batch Method: EPA 410.4
Analysis Method: EPA 410.4
Analysis Description: 410.4 COD
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

METHOD BLANK: 1789382
Matrix: Water
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chemical Oxygen Demand	mg/L	ND	50.0	09/18/14 15:22	

LABORATORY CONTROL SAMPLE: 1789383

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chemical Oxygen Demand	mg/L	300	298	100	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1789384 1789385

Parameter	Units	10281023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chemical Oxygen Demand	mg/L	ND	250	250	242	252	95	99	90-110	4	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1790919 1790920

Parameter	Units	10280918001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chemical Oxygen Demand	mg/L	1580	2500	2500	4360	4030	111	98	90-110	8	20	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

QC Batch: WETA/20265
QC Batch Method: ASTM D516
Analysis Method: ASTM D516
Analysis Description: ASTM D516 Sulfate Water
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

METHOD BLANK: 1793847
Matrix: Water
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	09/19/14 10:52	

LABORATORY CONTROL SAMPLE & LCSD: 1793848 1793849

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Sulfate	mg/L	7.5	7.9	7.3	106	97	80-120	9	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1793850 1793851

Parameter	Units	10280884001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	728	20	20	715	712	-64	-78	80-120	0	30	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1793852 1793853

Parameter	Units	10281226004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	40.0	20	20	53.1	45.1	65	25	80-120	16	30	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

QC Batch: WETA/20178
QC Batch Method: SM 4500-Cl E
Analysis Method: SM 4500-Cl E
Analysis Description: SM4500Cl-E Chloride
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

METHOD BLANK: 1788635
Matrix: Water
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	09/15/14 10:38	

LABORATORY CONTROL SAMPLE: 1788636

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	15	15.5	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1788637 1788638

Parameter	Units	10280682008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	28800 ug/L	15	15	40.8	41.6	80	85	80-120	2	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1788639 1788640

Parameter	Units	10280884001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	76.2	15	15	91.0	90.5	99	96	80-120	1	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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QUALITY CONTROL DATA

Project: OLD LANDFILL
Pace Project No.: 10281023

QC Batch: WETA/20217
QC Batch Method: SM 4500-CN-E
Analysis Method: SM 4500-CN-E
Analysis Description: SM4500CN-E Cyanide
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

METHOD BLANK: 1790567
Matrix: Water
Associated Lab Samples: 10281023001, 10281023002, 10281023003, 10281023004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Cyanide	mg/L	ND	0.010	09/19/14 15:00	

LABORATORY CONTROL SAMPLE: 1790568

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Cyanide	mg/L	.25	0.25	98	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1790569 1790570

Parameter	Units	10281023001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	0.0066J	.25	.25	0.27	0.31	104	120	80-120	14	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1790571 1790572

Parameter	Units	10281376012 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Cyanide	mg/L	10.0 U ug/L	.25	.25	0.26	0.26	101	101	80-120	0	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project: OLD LANDFILL
Pace Project No.: 10281023

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

B	Analyte was detected in the associated method blank.
CL	The continuing calibration for this compound is outside of Pace Analytical acceptance limits. The results may be biased low.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: OLD LANDFILL
Pace Project No.: 10281023

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10281023001	BSB-GW-01-090814	EPA 200.8	MPRP/49085	EPA 200.8	ICPM/21735
10281023001	BSB-GW-01-090814	EPA 8260	MSV/28600		
10281023002	BSB-GW-02-090814	EPA 8260	MSV/28600		
10281023003	BSB-GW-03-090914	EPA 8260	MSV/28600		
10281023004	BSB-GW-04-090814	EPA 8260	MSV/28600		
10281023005	BSB-GW-07-090814	EPA 8260	MSV/28600		
10281023006	TRIP BLANK	EPA 8260	MSV/28600		
10281023001	BSB-GW-01-090814	EPA 120.1	WET/38157		
10281023002	BSB-GW-02-090814	EPA 120.1	WET/38157		
10281023003	BSB-GW-03-090914	EPA 120.1	WET/38157		
10281023004	BSB-GW-04-090814	EPA 120.1	WET/38157		
10281023001	BSB-GW-01-090814	SM 4500-H+B	WET/38097		
10281023002	BSB-GW-02-090814	SM 4500-H+B	WET/38097		
10281023003	BSB-GW-03-090914	SM 4500-H+B	WET/38097		
10281023004	BSB-GW-04-090814	SM 4500-H+B	WET/38097		
10281023001	BSB-GW-01-090814	EPA 353.2	WETA/20200		
10281023002	BSB-GW-02-090814	EPA 353.2	WETA/20200		
10281023003	BSB-GW-03-090914	EPA 353.2	WETA/20200		
10281023004	BSB-GW-04-090814	EPA 353.2	WETA/20200		
10281023001	BSB-GW-01-090814	EPA 410.4	WETA/20204	EPA 410.4	WETA/20231
10281023002	BSB-GW-02-090814	EPA 410.4	WETA/20204	EPA 410.4	WETA/20231
10281023003	BSB-GW-03-090914	EPA 410.4	WETA/20204	EPA 410.4	WETA/20231
10281023004	BSB-GW-04-090814	EPA 410.4	WETA/20204	EPA 410.4	WETA/20231
10281023001	BSB-GW-01-090814	ASTM D516	WETA/20265		
10281023002	BSB-GW-02-090814	ASTM D516	WETA/20265		
10281023003	BSB-GW-03-090914	ASTM D516	WETA/20265		
10281023004	BSB-GW-04-090814	ASTM D516	WETA/20265		
10281023001	BSB-GW-01-090814	SM 4500-Cl E	WETA/20178		
10281023002	BSB-GW-02-090814	SM 4500-Cl E	WETA/20178		
10281023003	BSB-GW-03-090914	SM 4500-Cl E	WETA/20178		
10281023004	BSB-GW-04-090814	SM 4500-Cl E	WETA/20178		
10281023001	BSB-GW-01-090814	SM 4500-CN-E	WETA/20217	SM 4500-CN-E	WETA/20272
10281023002	BSB-GW-02-090814	SM 4500-CN-E	WETA/20217	SM 4500-CN-E	WETA/20272
10281023003	BSB-GW-03-090914	SM 4500-CN-E	WETA/20217	SM 4500-CN-E	WETA/20272
10281023004	BSB-GW-04-090814	SM 4500-CN-E	WETA/20217	SM 4500-CN-E	WETA/20272

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

10281023

Page: 1 of 1

Section A
Required Client Information:

Company: Pioneer Technical
Address: 40 Spanish Peak Dr.
Bozeman, MT 59718
Email To: jemmert@pioneer-techinical.com
Phone: 406-782-5177 Fax:
Requested Due Date/TAT: Standard

Section B
Required Project Information:

Report To: J.D. Emmert
Copy To:
Purchase Order No.:
Project Name: OLD LANDFILL
Project Number:

Section C
Invoice Information:

Attention: Gary Keeler (406-497-6515)
Company Name: BSB Public Works Dept
Address: 126 W. Granite Butte,MT 59701
Pace Quote Reference:
Pace Project Manager: Julie Thieschafer
Pace Profile #: 21705

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER ______

Site Location STATE: MT

Section D
Required Client Information

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	↓Analysis Test↓ Y/N	Cyanide	Nitrate+Nitrite	COD	pH, SC, SO4 and Chloride	8260	Dissolved Metals*	Sulfide						Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	BSB-GW-01-090814		G	9/8	1030				7	1	1	1	3	1					X	X	X	X	X	X								10281023 001
2	BSB-GW-02-090814		G	9/8	1256				6	1	1		3	1					X	X	X	X	X									002
3	BSB-GW-03-090914		G	9/9	915				6	1	1		3	1					X	X	X	X	X									003
4	BSB-GW-04-090814		G	9/8	1606				6	1	1		3	1					X	X	X	X	X									004
5	~~BSB-GW-05-090914 DL~~		~~G~~	~~9/9~~	~~1000~~					~~1~~		~~1~~										~~X~~		~~X~~								
6	~~BSB-GW-06-090914 DL~~		~~G~~	~~9/9~~	~~1115~~					~~1~~		~~1~~										~~X~~		~~X~~								
7	BSB-GW-07-090814		G	9/8	165				3				3										X									005
8	~~BSB-GW-08-090914 DL~~		~~G~~	~~9/9~~	~~1105~~					~~1~~		~~1~~										~~X~~		~~X~~								
9	~~BSB-GW-09-090914 DL~~		~~G~~	~~9/9~~	~~1230~~					~~1~~		~~1~~										~~X~~		~~X~~								
10																																
11																																
12																																

Requested Analysis Filtered (Y/N)

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
*Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni, Se, V, Zn	DJ Renz / Pioneer tech	9/9/14	14:40	Pace	9/10/14	1515	0.5	Y	Y	Y
805384354882										
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DJ Renz
SIGNATURE of SAMPLER: DJ
DATE Signed (MM/DD/YY): 09/07/2014

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form**	Document Revised: 28Feb2014 Page 1 of 1
	Document No.: **F-MN-L-213-rev.09**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt

Client Name: PioneerTech

Project #: **WO#:10281023**

10281023

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:______

Tracking Number: 8053 8435 4882

Optional: Proj. Due Date: Proj. Name:

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other:______ **Temp Blank?** ☐ Yes ☒ No

Thermom. Used: ☐ B88A9130516413 ☒ B88A912167504 ☐ B88A9132521491 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ Samples on ice, cooling process has begun

Cooler Temp Read (°C): 0.2 **Cooler Temp Corrected (°C):** 0.5 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ N/A

Temp should be above freezing to 6°C **Correction Factor:** +0.3 **Date and Initials of Person Examining Contents:** 9/10/14

	Yes	No	N/A	**Comments:**
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☒ Yes	☐ No	☐ N/A	11.
Sample Labels Match COC? -Includes Date/Time/ID/Analysis Matrix: WT	☒ Yes	☐ No	☐ N/A	12.
All containers needing acid/base preservation have been checked? All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH >9 Sulfide, NaOH>12 Cyanide) Exceptions: VOA, Coliform, TOC, Oil and Grease, DRO/8015 (water) DOC	☒ Yes ☒ Yes ☒ Yes	☐ No ☐ No ☐ No	☐ N/A ☐ N/A	13. ☒ HNO_3 1/1 ☒ H_2SO_4 1/1 ☒ NaOH 1/1 ☐ HCl Sample # 2-4 Initial when completed:______ Lot # of added preservative:______
Headspace in VOA Vials (>6mm)?	☐ Yes	☒ No	☐ N/A	14.
Trip Blank Present?	☒ Yes	☐ No	☐ N/A	15.
Trip Blank Custody Seals Present? Pace Trip Blank Lot # (if purchased): 082114-01	☒ Yes	☐ No	☐ N/A	

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: ______ Date/Time: ______

Comments/Resolution: ______

Project Manager Review: ______ **Date:** 9/12/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

Pace Analytical®
www.pacelabs.com

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1700 Elm Street - Suite 200
Minneapolis, MN 55414
(612)607-1700

October 02, 2014

Brad Hollamon
Pioneer Technical Services
1101 S. Montana Street
Butte, MT 59701

RE: Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Dear Brad Hollamon:

Enclosed are the analytical results for sample(s) received by the laboratory on September 10, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Chee Lee
chee.lee@pacelabs.com
Project Manager

Enclosures

cc: Mitch Mihailovich, Pioneer Technical Services

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without the written consent of Pace Analytical Services, Inc..

CERTIFICATIONS

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Minnesota Certification IDs

1700 Elm Street SE Suite 200, Minneapolis, MN 55414
A2LA Certification #: 2926.01
Alaska Certification #: UST-078
Alaska Certification #MN00064
Alabama Certification #40770
Alabama Certification #40770
Arizona Certification #: AZ-0014
Arkansas Certification #: 88-0680
California Certification #: 01155CA
Colorado Certification #Pace
Connecticut Certification #: PH-0256
EPA Region 8 Certification #: 8TMS-L
Florida/NELAP Certification #: E87605
Guam Certification #: Pace
Georgia Certification #: 959
Idaho Certification #: MN00064
Hawaii Certification #MN00064
Illinois Certification #: 200011
Indiana Certification#C-MN-01
Iowa Certification #: 368
Kansas Certification #: E-10167
Kentucky Dept of Envi. Protection - DW #90062
Kentucky Dept of Envi. Protection - WW #:90062
Louisiana DEQ Certification #: 3086
Louisiana DHH #: LA140001
Maine Certification #: 2013011
Maryland Certification #: 322
Michigan DEPH Certification #: 9909
Minnesota Certification #: 027-053-137
Mississippi Certification #: Pace
Montana Certification #: MT0092
Nevada Certification #: MN_00064
Nebraska Certification #: Pace
New Jersey Certification #: MN-002
New Jersey Certification #: MN-002
New York Certification #: 11647
North Carolina Certification #: 530
North Carolina State Public Health #: 27700
North Dakota Certification #: R-036
Ohio EPA #: 4150
Ohio VAP Certification #: CL101
Oklahoma Certification #: 9507
Oregon Certification #: MN200001
Oregon Certification #: MN300001
Pennsylvania Certification #: 68-00563
Puerto Rico Certification
Saipan (CNMI) #:MP0003
South Carolina #:74003001
Texas Certification #: T104704192
Tennessee Certification #: 02818
Utah Certification #: MN000642013-4
Virginia DGS Certification #: 251
Virginia/VELAP Certification #: Pace
Washington Certification #: C486
Wisconsin Certification #: 999407970
West Virginia Certification #: 382
West Virginia DHHR #:9952C

SAMPLE SUMMARY

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Lab ID	Sample ID	Matrix	Date Collected	Date Received
10280884001	**BSB-GW-06-090914**	Water	09/09/14 11:05	09/10/14 10:15
10280884002	**BSB-GW-05-090914**	Water	09/09/14 10:00	09/10/14 10:15
10280884003	**BSB-GW-08-090914**	Water	09/09/14 11:05	09/10/14 10:15
10280884004	**BSB-GW-09-090914**	Water	09/09/14 12:30	09/10/14 10:15

SAMPLE ANALYTE COUNT

Project:	Old Landfill/Clark Tailings
Pace Project No.:	10280884

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
10280884001	BSB-GW-06-090914	EPA 200.8	RJS	14	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
10280884002	BSB-GW-05-090914	EPA 200.8	RJS	14	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
10280884003	BSB-GW-08-090914	EPA 200.8	RJS	14	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M
10280884004	BSB-GW-09-090914	EPA 200.8	RJS	14	PASI-M
		EPA 120.1	HNKH	1	PASI-M
		SM 4500-H+B	HNKH	1	PASI-M
		ASTM D516	KEO	1	PASI-M
		SM 4500-Cl E	KEO	1	PASI-M

PROJECT NARRATIVE

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Dissolved
Client: BPAR-PIONEER-MT
Date: October 02, 2014

General Information:
3 samples were analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: MPRP/49085

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10280884002

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1790889)
    - Iron, Dissolved
    - Zinc, Dissolved
- MSD (Lab ID: 1790890)
    - Zinc, Dissolved

Additional Comments:

Analyte Comments:

QC Batch: MPRP/49085

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MS (Lab ID: 1790889)
    - Zinc, Dissolved

PROJECT NARRATIVE

Project:	Old Landfill/Clark Tailings
Pace Project No.:	10280884

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Dissolved
Client: BPAR-PIONEER-MT
Date: October 02, 2014

Analyte Comments:

QC Batch: MPRP/49085

E: Analyte concentration exceeded the calibration range. The reported result is estimated.

- MSD (Lab ID: 1790890)
  - Zinc, Dissolved

PROJECT NARRATIVE

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Method: **EPA 200.8**
Description: 200.8 MET ICPMS, Lab Filtered
Client: BPAR-PIONEER-MT
Date: October 02, 2014

General Information:
1 sample was analyzed for EPA 200.8. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Sample Preparation:
The samples were prepared in accordance with EPA 200.8 with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Internal Standards:
All internal standards were within QC limits with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Method: **EPA 120.1**
Description: 120.1 Specific Conductance
Client: BPAR-PIONEER-MT
Date: October 02, 2014

General Information:
4 samples were analyzed for EPA 120.1. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Method: **SM 4500-H+B**
Description: 4500H+ pH, Electrometric
Client: BPAR-PIONEER-MT
Date: October 02, 2014

General Information:
4 samples were analyzed for SM 4500-H+B. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

H6: Analysis initiated outside of the 15 minute EPA recommended holding time.
- BSB-GW-05-090914 (Lab ID: 10280884002)
- BSB-GW-06-090914 (Lab ID: 10280884001)
- BSB-GW-08-090914 (Lab ID: 10280884003)
- BSB-GW-09-090914 (Lab ID: 10280884004)

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Duplicate Sample:
All duplicate sample results were within method acceptance criteria with any exceptions noted below.

Additional Comments:

PROJECT NARRATIVE

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Method: **ASTM D516**
Description: ASTM D516 Sulfate Water
Client: BPAR-PIONEER-MT
Date: October 02, 2014

General Information:
4 samples were analyzed for ASTM D516. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

QC Batch: WETA/20265

A matrix spike and/or matrix spike duplicate (MS/MSD) were performed on the following sample(s): 10280884001,10281226004

M1: Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.

- MS (Lab ID: 1793852)
  - Sulfate
- MSD (Lab ID: 1793853)
  - Sulfate

M6: Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

- MS (Lab ID: 1793850)
  - Sulfate
- MSD (Lab ID: 1793851)
  - Sulfate

Additional Comments:

PROJECT NARRATIVE

Project:	Old Landfill/Clark Tailings
Pace Project No.:	10280884

Method: **SM 4500-Cl E**
Description: SM4500Cl-E Chloride
Client: BPAR-PIONEER-MT
Date: October 02, 2014

General Information:
4 samples were analyzed for SM 4500-Cl E. All samples were received in acceptable condition with any exceptions noted below.

Hold Time:
The samples were analyzed within the method required hold times with any exceptions noted below.

Initial Calibrations (including MS Tune as applicable):
All criteria were within method requirements with any exceptions noted below.

Continuing Calibration:
All criteria were within method requirements with any exceptions noted below.

Method Blank:
All analytes were below the report limit in the method blank, where applicable, with any exceptions noted below.

Laboratory Control Spike:
All laboratory control spike compounds were within QC limits with any exceptions noted below.

Matrix Spikes:
All percent recoveries and relative percent differences (RPDs) were within acceptance criteria with any exceptions noted below.

Additional Comments:

This data package has been reviewed for quality and completeness and is approved for release.

ANALYTICAL RESULTS

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Sample: BSB-GW-06-090914 **Lab ID: 10280884001** Collected: 09/09/14 11:05 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Lab Filtered	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	ND	mg/L	0.00050	0.00025	1	09/25/14 08:00	09/26/14 14:31	7440-36-0	
Arsenic, Dissolved	**0.00096**	mg/L	0.00050	0.00025	1	09/25/14 08:00	09/26/14 14:31	7440-38-2	
Barium, Dissolved	**0.019**	mg/L	0.00030	0.00014	1	09/25/14 08:00	09/26/14 14:31	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000066	1	09/25/14 08:00	09/26/14 14:31	7440-41-7	
Cadmium, Dissolved	**0.0013**	mg/L	0.000080	0.000033	1	09/25/14 08:00	09/26/14 14:31	7440-43-9	
Chromium, Dissolved	**0.00029J**	mg/L	0.00050	0.00022	1	09/25/14 08:00	09/26/14 14:31	7440-47-3	
Cobalt, Dissolved	**0.00038J**	mg/L	0.00050	0.00025	1	09/25/14 08:00	09/26/14 14:31	7440-48-4	
Copper, Dissolved	**0.0040**	mg/L	0.0010	0.00022	1	09/25/14 08:00	09/26/14 14:31	7440-50-8	
Iron, Dissolved	ND	mg/L	0.050	0.0080	1	09/25/14 08:00	09/26/14 14:31	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	09/25/14 08:00	09/26/14 14:31	7439-92-1	
Nickel, Dissolved	**0.047**	mg/L	0.00050	0.00023	1	09/25/14 08:00	09/26/14 14:31	7440-02-0	
Selenium, Dissolved	ND	mg/L	0.00050	0.00025	1	09/25/14 08:00	09/26/14 14:31	7782-49-2	
Vanadium, Dissolved	**0.0020**	mg/L	0.0010	0.00021	1	09/25/14 08:00	09/26/14 14:31	7440-62-2	
Zinc, Dissolved	**0.72**	mg/L	0.050	0.025	10	09/25/14 08:00	09/26/14 14:36	7440-66-6	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1910**	umhos/cm	1.0	1.0	1		09/18/14 09:20		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.5**	Std. Units	0.10	0.050	1		09/15/14 11:13		H6
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**728**	mg/L	62.5	31.2	25		09/19/14 11:38	14808-79-8	M6
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**76.2**	mg/L	5.0	0.25	5		09/15/14 11:19	16887-00-6	

ANALYTICAL RESULTS

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Sample: BSB-GW-05-090914 **Lab ID: 10280884002** Collected: 09/09/14 10:00 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	ND	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 02:08	7440-36-0	
Arsenic, Dissolved	**0.12**	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 02:08	7440-38-2	
Barium, Dissolved	**0.023**	mg/L	0.00030	0.00014	1	09/17/14 11:54	09/18/14 02:08	7440-39-3	
Beryllium, Dissolved	**0.00025**	mg/L	0.00020	0.000066	1	09/17/14 11:54	09/18/14 02:08	7440-41-7	
Cadmium, Dissolved	**0.013**	mg/L	0.000080	0.000033	1	09/17/14 11:54	09/18/14 02:08	7440-43-9	
Chromium, Dissolved	ND	mg/L	0.00050	0.00022	1	09/17/14 11:54	09/18/14 02:08	7440-47-3	
Cobalt, Dissolved	**0.045**	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 02:08	7440-48-4	
Copper, Dissolved	**0.00054J**	mg/L	0.0010	0.00022	1	09/17/14 11:54	09/18/14 02:08	7440-50-8	
Iron, Dissolved	**16.1**	mg/L	0.050	0.0080	1	09/17/14 11:54	09/18/14 02:08	7439-89-6	M1
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	09/17/14 11:54	09/18/14 02:08	7439-92-1	
Nickel, Dissolved	**0.036**	mg/L	0.00050	0.00023	1	09/17/14 11:54	09/18/14 02:08	7440-02-0	
Selenium, Dissolved	ND	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 02:08	7782-49-2	
Vanadium, Dissolved	ND	mg/L	0.0010	0.00021	1	09/17/14 11:54	09/18/14 02:08	7440-62-2	
Zinc, Dissolved	**53.4**	mg/L	1.0	0.50	200	09/17/14 11:54	09/18/14 10:01	7440-66-6	M1
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1940**	umhos/cm	1.0	1.0	1		09/18/14 09:21		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.2**	Std. Units	0.10	0.050	1		09/15/14 11:12		H6
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**908**	mg/L	125	62.5	50		09/19/14 11:55	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**29.9**	mg/L	2.0	0.10	2		09/15/14 11:03	16887-00-6	

ANALYTICAL RESULTS

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Sample: BSB-GW-08-090914 **Lab ID: 10280884003** Collected: 09/09/14 11:05 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	ND	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 01:59	7440-36-0	
Arsenic, Dissolved	**0.00087**	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 01:59	7440-38-2	
Barium, Dissolved	**0.018**	mg/L	0.00030	0.00014	1	09/17/14 11:54	09/18/14 01:59	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000066	1	09/17/14 11:54	09/18/14 01:59	7440-41-7	
Cadmium, Dissolved	**0.0014**	mg/L	0.000080	0.000033	1	09/17/14 11:54	09/18/14 01:59	7440-43-9	
Chromium, Dissolved	**0.00077**	mg/L	0.00050	0.00022	1	09/17/14 11:54	09/18/14 01:59	7440-47-3	
Cobalt, Dissolved	**0.00068**	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 01:59	7440-48-4	
Copper, Dissolved	**0.0043**	mg/L	0.0010	0.00022	1	09/17/14 11:54	09/18/14 01:59	7440-50-8	
Iron, Dissolved	ND	mg/L	0.050	0.0080	1	09/17/14 11:54	09/18/14 01:59	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	09/17/14 11:54	09/18/14 01:59	7439-92-1	
Nickel, Dissolved	**0.046**	mg/L	0.00050	0.00023	1	09/17/14 11:54	09/18/14 01:59	7440-02-0	
Selenium, Dissolved	ND	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 01:59	7782-49-2	
Vanadium, Dissolved	**0.0021**	mg/L	0.0010	0.00021	1	09/17/14 11:54	09/18/14 01:59	7440-62-2	
Zinc, Dissolved	**0.80**	mg/L	0.025	0.012	5	09/17/14 11:54	09/18/14 10:15	7440-66-6	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1910**	umhos/cm	1.0	1.0	1		09/18/14 09:22		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**6.4**	Std. Units	0.10	0.050	1		09/15/14 11:14		H6
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	**681**	mg/L	62.5	31.2	25		09/19/14 11:41	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**75.3**	mg/L	5.0	0.25	5		09/15/14 11:22	16887-00-6	

ANALYTICAL RESULTS

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Sample: BSB-GW-09-090914 **Lab ID: 10280884004** Collected: 09/09/14 12:30 Received: 09/10/14 10:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
200.8 MET ICPMS, Dissolved	Analytical Method: EPA 200.8 Preparation Method: EPA 200.8								
Antimony, Dissolved	ND	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 02:04	7440-36-0	
Arsenic, Dissolved	ND	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 02:04	7440-38-2	
Barium, Dissolved	ND	mg/L	0.00030	0.00014	1	09/17/14 11:54	09/18/14 02:04	7440-39-3	
Beryllium, Dissolved	ND	mg/L	0.00020	0.000066	1	09/17/14 11:54	09/18/14 02:04	7440-41-7	
Cadmium, Dissolved	ND	mg/L	0.000080	0.000033	1	09/17/14 11:54	09/18/14 02:04	7440-43-9	
Chromium, Dissolved	**0.00027J**	mg/L	0.00050	0.00022	1	09/17/14 11:54	09/18/14 02:04	7440-47-3	
Cobalt, Dissolved	ND	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 02:04	7440-48-4	
Copper, Dissolved	**0.00036J**	mg/L	0.0010	0.00022	1	09/17/14 11:54	09/18/14 02:04	7440-50-8	
Iron, Dissolved	ND	mg/L	0.050	0.0080	1	09/17/14 11:54	09/18/14 02:04	7439-89-6	
Lead, Dissolved	ND	mg/L	0.00010	0.000046	1	09/17/14 11:54	09/18/14 02:04	7439-92-1	
Nickel, Dissolved	ND	mg/L	0.00050	0.00023	1	09/17/14 11:54	09/18/14 02:04	7440-02-0	
Selenium, Dissolved	ND	mg/L	0.00050	0.00025	1	09/17/14 11:54	09/18/14 02:04	7782-49-2	
Vanadium, Dissolved	ND	mg/L	0.0010	0.00021	1	09/17/14 11:54	09/18/14 02:04	7440-62-2	
Zinc, Dissolved	ND	mg/L	0.0050	0.0025	1	09/17/14 11:54	09/18/14 02:04	7440-66-6	
120.1 Specific Conductance	Analytical Method: EPA 120.1								
Specific Conductance	**1.6**	umhos/cm	1.0	1.0	1		09/18/14 09:24		
4500H+ pH, Electrometric	Analytical Method: SM 4500-H+B								
pH at 25 Degrees C	**5.6**	Std. Units	0.10	0.050	1		09/15/14 11:30		H6
ASTM D516 Sulfate Water	Analytical Method: ASTM D516								
Sulfate	ND	mg/L	2.5	1.2	1		09/19/14 10:57	14808-79-8	
SM4500Cl-E Chloride	Analytical Method: SM 4500-Cl E								
Chloride	**0.64J**	mg/L	1.0	0.050	1		09/15/14 10:41	16887-00-6	

QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

QC Batch: MPRP/49085
Analysis Method: EPA 200.8
QC Batch Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved
Associated Lab Samples: 10280884002, 10280884003, 10280884004

METHOD BLANK: 1790657
Matrix: Water
Associated Lab Samples: 10280884002, 10280884003, 10280884004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Antimony, Dissolved	mg/L	ND	0.00050	09/18/14 01:44	
Arsenic, Dissolved	mg/L	ND	0.00050	09/18/14 01:44	
Barium, Dissolved	mg/L	ND	0.00030	09/18/14 01:44	
Beryllium, Dissolved	mg/L	ND	0.00020	09/18/14 01:44	
Cadmium, Dissolved	mg/L	ND	0.000080	09/18/14 01:44	
Chromium, Dissolved	mg/L	ND	0.00050	09/18/14 01:44	
Cobalt, Dissolved	mg/L	ND	0.00050	09/18/14 01:44	
Copper, Dissolved	mg/L	ND	0.0010	09/18/14 01:44	
Iron, Dissolved	mg/L	ND	0.050	09/18/14 01:44	
Lead, Dissolved	mg/L	ND	0.00010	09/18/14 01:44	
Nickel, Dissolved	mg/L	ND	0.00050	09/18/14 01:44	
Selenium, Dissolved	mg/L	ND	0.00050	09/18/14 01:44	
Vanadium, Dissolved	mg/L	ND	0.0010	09/18/14 01:44	
Zinc, Dissolved	mg/L	ND	0.0050	09/18/14 01:44	

LABORATORY CONTROL SAMPLE: 1790658

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Antimony, Dissolved	mg/L	.08	0.081	102	85-115	
Arsenic, Dissolved	mg/L	.08	0.081	102	85-115	
Barium, Dissolved	mg/L	.08	0.080	100	85-115	
Beryllium, Dissolved	mg/L	.08	0.082	102	85-115	
Cadmium, Dissolved	mg/L	.08	0.081	102	85-115	
Chromium, Dissolved	mg/L	.08	0.084	105	85-115	
Cobalt, Dissolved	mg/L	.08	0.081	102	85-115	
Copper, Dissolved	mg/L	.08	0.083	104	85-115	
Iron, Dissolved	mg/L	1	1.0	104	85-115	
Lead, Dissolved	mg/L	.08	0.082	103	85-115	
Nickel, Dissolved	mg/L	.08	0.083	103	85-115	
Selenium, Dissolved	mg/L	.08	0.080	100	85-115	
Vanadium, Dissolved	mg/L	.08	0.083	103	85-115	
Zinc, Dissolved	mg/L	.08	0.083	104	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1790889 1790890

Parameter	Units	10280884002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Antimony, Dissolved	mg/L	ND	.08	.08	0.083	0.082	104	102	70-130	2	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1790889 1790890

Parameter	Units	10280884002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	0.12	.08	.08	0.20	0.19	100	92	70-130	3	20	
Barium, Dissolved	mg/L	0.023	.08	.08	0.11	0.10	105	102	70-130	2	20	
Beryllium, Dissolved	mg/L	0.00025	.08	.08	0.084	0.083	105	103	70-130	2	20	
Cadmium, Dissolved	mg/L	0.013	.08	.08	0.095	0.093	103	100	70-130	2	20	
Chromium, Dissolved	mg/L	ND	.08	.08	0.083	0.081	103	102	70-130	2	20	
Cobalt, Dissolved	mg/L	0.045	.08	.08	0.12	0.12	99	93	70-130	4	20	
Copper, Dissolved	mg/L	0.00054J	.08	.08	0.078	0.076	96	95	70-130	2	20	
Iron, Dissolved	mg/L	16.1	1	1	17.6	17.0	152	88	70-130	4	20	M1
Lead, Dissolved	mg/L	ND	.08	.08	0.085	0.083	106	104	70-130	2	20	
Nickel, Dissolved	mg/L	0.036	.08	.08	0.11	0.11	97	95	70-130	2	20	
Selenium, Dissolved	mg/L	ND	.08	.08	0.081	0.079	101	98	70-130	3	20	
Vanadium, Dissolved	mg/L	ND	.08	.08	0.082	0.081	102	101	70-130	1	20	
Zinc, Dissolved	mg/L	53.4	.08	.08	47.4	45.2	-7580	-10200	70-130	5	20	E,M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

QC Batch: MPRP/49296
QC Batch Method: EPA 200.8
Associated Lab Samples: 10280884001

Analysis Method: EPA 200.8
Analysis Description: 200.8 MET Dissolved

METHOD BLANK: 1798516
Matrix: Water
Associated Lab Samples: 10280884001

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Aluminum, Dissolved	mg/L	ND	0.010	09/26/14 13:28	
Arsenic, Dissolved	mg/L	ND	0.00050	09/26/14 13:28	
Barium, Dissolved	mg/L	ND	0.00030	09/26/14 13:28	
Beryllium, Dissolved	mg/L	ND	0.00020	09/26/14 13:28	
Cadmium, Dissolved	mg/L	ND	0.000080	09/26/14 13:28	
Chromium, Dissolved	mg/L	ND	0.00050	09/26/14 13:28	
Cobalt, Dissolved	mg/L	ND	0.00050	09/26/14 13:28	
Copper, Dissolved	mg/L	ND	0.0010	09/26/14 13:28	
Iron, Dissolved	mg/L	ND	0.050	09/26/14 13:28	
Lead, Dissolved	mg/L	ND	0.00010	09/26/14 13:28	
Nickel, Dissolved	mg/L	ND	0.00050	09/26/14 13:28	
Selenium, Dissolved	mg/L	ND	0.00050	09/26/14 13:28	
Vanadium, Dissolved	mg/L	ND	0.0010	09/26/14 13:28	
Zinc, Dissolved	mg/L	ND	0.0050	09/26/14 13:28	

LABORATORY CONTROL SAMPLE: 1798517

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Aluminum, Dissolved	mg/L	.08	0.078	98	85-115	
Arsenic, Dissolved	mg/L	.08	0.081	101	85-115	
Barium, Dissolved	mg/L	.08	0.078	98	85-115	
Beryllium, Dissolved	mg/L	.08	0.080	100	85-115	
Cadmium, Dissolved	mg/L	.08	0.079	98	85-115	
Chromium, Dissolved	mg/L	.08	0.080	100	85-115	
Cobalt, Dissolved	mg/L	.08	0.082	102	85-115	
Copper, Dissolved	mg/L	.08	0.084	105	85-115	
Iron, Dissolved	mg/L	1	0.99	99	85-115	
Lead, Dissolved	mg/L	.08	0.081	101	85-115	
Nickel, Dissolved	mg/L	.08	0.083	104	85-115	
Selenium, Dissolved	mg/L	.08	0.081	101	85-115	
Vanadium, Dissolved	mg/L	.08	0.079	99	85-115	
Zinc, Dissolved	mg/L	.08	0.081	101	85-115	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1798518 1798519

Parameter	Units	10281891001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Aluminum, Dissolved	mg/L	<10.0 ug/L	.08	.08	0.093	0.092	107	107	70-130	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project:	Old Landfill/Clark Tailings
Pace Project No.:	10280884

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1798518 1798519

Parameter	Units	10281891001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Arsenic, Dissolved	mg/L	<0.00050	.08	.08	0.080	0.083	99	103	70-130	4	20	
Barium, Dissolved	mg/L	49.9 ug/L	.08	.08	0.13	0.13	96	100	70-130	2	20	
Beryllium, Dissolved	mg/L	<0.20 ug/L	.08	.08	0.078	0.080	97	100	70-130	3	20	
Cadmium, Dissolved	mg/L	0.0012	.08	.08	0.078	0.080	95	99	70-130	4	20	
Chromium, Dissolved	mg/L	0.00061	.08	.08	0.079	0.080	98	99	70-130	1	20	
Cobalt, Dissolved	mg/L	<0.50 ug/L	.08	.08	0.080	0.082	100	102	70-130	2	20	
Copper, Dissolved	mg/L	0.0019	.08	.08	0.083	0.085	101	103	70-130	2	20	
Iron, Dissolved	mg/L	<50.0 ug/L	1	1	0.98	1.0	95	97	70-130	2	20	
Lead, Dissolved	mg/L	0.00074	.08	.08	0.079	0.081	98	100	70-130	2	20	
Nickel, Dissolved	mg/L	0.0018	.08	.08	0.082	0.084	100	103	70-130	3	20	
Selenium, Dissolved	mg/L	<0.50 ug/L	.08	.08	0.079	0.081	99	101	70-130	2	20	
Vanadium, Dissolved	mg/L	<1.0 ug/L	.08	.08	0.079	0.081	98	100	70-130	2	20	
Zinc, Dissolved	mg/L	0.29	.08	.08	0.36	0.37	94	106	70-130	3	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

QC Batch: WET/38157
Analysis Method: EPA 120.1
QC Batch Method: EPA 120.1
Analysis Description: 120.1 Specific Conductance
Associated Lab Samples: 10280884001, 10280884002, 10280884003, 10280884004

METHOD BLANK: 1792049
Matrix: Water
Associated Lab Samples: 10280884001, 10280884002, 10280884003, 10280884004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Specific Conductance	umhos/cm	ND	1.0	09/18/14 09:17	

LABORATORY CONTROL SAMPLE: 1792050

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Specific Conductance	umhos/cm	1000	1050	105	90-110	

SAMPLE DUPLICATE: 1792051

Parameter	Units	10280632002 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	475	472	1	20	

SAMPLE DUPLICATE: 1792052

Parameter	Units	10281525004 Result	Dup Result	RPD	Max RPD	Qualifiers
Specific Conductance	umhos/cm	1320	1310	0	20	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

QC Batch: WET/38097
QC Batch Method: SM 4500-H+B
Analysis Method: SM 4500-H+B
Analysis Description: 4500H+B pH
Associated Lab Samples: 10280884001, 10280884002, 10280884003, 10280884004

LABORATORY CONTROL SAMPLE: 1788469

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
pH at 25 Degrees C	Std. Units	5	5.1	102	98-102	H6

SAMPLE DUPLICATE: 1788470

Parameter	Units	10280816001 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	8.6	8.6	0	3	H6

SAMPLE DUPLICATE: 1788471

Parameter	Units	10280884004 Result	Dup Result	RPD	Max RPD	Qualifiers
pH at 25 Degrees C	Std. Units	5.6	5.7	1	3	H6

QUALITY CONTROL DATA

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

QC Batch: WETA/20265
Analysis Method: ASTM D516
QC Batch Method: ASTM D516
Analysis Description: ASTM D516 Sulfate Water
Associated Lab Samples: 10280884001, 10280884002, 10280884003, 10280884004

METHOD BLANK: 1793847
Matrix: Water
Associated Lab Samples: 10280884001, 10280884002, 10280884003, 10280884004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Sulfate	mg/L	ND	2.5	09/19/14 10:52	

LABORATORY CONTROL SAMPLE & LCSD: 1793848 1793849

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
Sulfate	mg/L	7.5	7.9	7.3	106	97	80-120	9	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1793850 1793851

Parameter	Units	10280884001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	728	20	20	715	712	-64	-78	80-120	0	30	M6

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1793852 1793853

Parameter	Units	10281226004 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Sulfate	mg/L	40.0	20	20	53.1	45.1	65	25	80-120	16	30	M1

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALITY CONTROL DATA

Project:	Old Landfill/Clark Tailings
Pace Project No.:	10280884

QC Batch:	WETA/20178	Analysis Method:	SM 4500-Cl E
QC Batch Method:	SM 4500-Cl E	Analysis Description:	SM4500Cl-E Chloride

Associated Lab Samples: 10280884001, 10280884002, 10280884003, 10280884004

METHOD BLANK: 1788635 Matrix: Water

Associated Lab Samples: 10280884001, 10280884002, 10280884003, 10280884004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chloride	mg/L	ND	1.0	09/15/14 10:38	

LABORATORY CONTROL SAMPLE: 1788636

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chloride	mg/L	15	15.5	103	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1788637 1788638

Parameter	Units	10280682008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	28800 ug/L	15	15	40.8	41.6	80	85	80-120	2	30	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1788639 1788640

Parameter	Units	10280884001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chloride	mg/L	76.2	15	15	91.0	90.5	99	96	80-120	1	30	

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

QUALIFIERS

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
PQL - Practical Quantitation Limit.
RL - Reporting Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.
TNI - The NELAC Institute.

LABORATORIES

PASI-M	Pace Analytical Services - Minneapolis

ANALYTE QUALIFIERS

E	Analyte concentration exceeded the calibration range. The reported result is estimated.
H6	Analysis initiated outside of the 15 minute EPA recommended holding time.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
M6	Matrix spike and Matrix spike duplicate recovery not evaluated against control limits due to sample dilution.

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Old Landfill/Clark Tailings
Pace Project No.: 10280884

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
10280884002	**BSB-GW-05-090914**	EPA 200.8	MPRP/49085	EPA 200.8	ICPM/21735
10280884003	**BSB-GW-08-090914**	EPA 200.8	MPRP/49085	EPA 200.8	ICPM/21735
10280884004	**BSB-GW-09-090914**	EPA 200.8	MPRP/49085	EPA 200.8	ICPM/21735
10280884001	**BSB-GW-06-090914**	EPA 200.8	MPRP/49296	EPA 200.8	ICPM/21868
10280884001	**BSB-GW-06-090914**	EPA 120.1	WET/38157		
10280884002	**BSB-GW-05-090914**	EPA 120.1	WET/38157		
10280884003	**BSB-GW-08-090914**	EPA 120.1	WET/38157		
10280884004	**BSB-GW-09-090914**	EPA 120.1	WET/38157		
10280884001	**BSB-GW-06-090914**	SM 4500-H+B	WET/38097		
10280884002	**BSB-GW-05-090914**	SM 4500-H+B	WET/38097		
10280884003	**BSB-GW-08-090914**	SM 4500-H+B	WET/38097		
10280884004	**BSB-GW-09-090914**	SM 4500-H+B	WET/38097		
10280884001	**BSB-GW-06-090914**	ASTM D516	WETA/20265		
10280884002	**BSB-GW-05-090914**	ASTM D516	WETA/20265		
10280884003	**BSB-GW-08-090914**	ASTM D516	WETA/20265		
10280884004	**BSB-GW-09-090914**	ASTM D516	WETA/20265		
10280884001	**BSB-GW-06-090914**	SM 4500-Cl E	WETA/20178		
10280884002	**BSB-GW-05-090914**	SM 4500-Cl E	WETA/20178		
10280884003	**BSB-GW-08-090914**	SM 4500-Cl E	WETA/20178		
10280884004	**BSB-GW-09-090914**	SM 4500-Cl E	WETA/20178		

bp rm

Laboratory Management Program LaMP Chain of Custody Record

Page 1 of 1

BP Site Node Path:
BP Facility No: Old Landfill/Clark Tailings
Req Due Date (mm/dd/yy):
Rush TAT: Yes ___ No ___
Lab Work Order Number: 10280884

Lab Name:	Facility Address:	Consultant/Contractor: Pioneer Technical Services
Lab Address:	City, State, ZIP Code:	Consultant/Contractor Project No:
Lab PM:	Lead Regulatory Agency:	Address: 40 Spanish Peak Drive, Suire 101 Bozeman, MT 59718
Lab Phone:	California Global ID No.:	Consultant/Contractor PM: J.D. Emmert
Lab Shipping Accnt:	Enfos Proposal No:	Phone: 406-782-5177 Email: jemmert@pioneer-technical.com
Lab Bottle Order No:	Accounting Mode: Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To: and to lab.enfosdoc@bp.com
Other Info:	Stage: Activity:	Invoice To: BP x Contractor ___
BP Project Manager (PM):		
BP PM Phone:		
BP PM Email:		

Report Type & QC Level
Standard x
Full Data Package ___

				Matrix				No. Containers / Preservative						Requested Analyses						
Lab No.	Sample Description	Date	Time	Soil / Solid	Water / Liquid	Air / Vapor	Is this location a well?	Total Number of Container	Unpreserved	H2SO4	HNO3 (filtered)	HCl	Methanol	Dissolved Metals (Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni. Se, V, Zn)	pH, SC, Chloride, SO4					Comments Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.
	BSB-GW-06-090914	9/9/14	1105		x			2	1		1			x	x					001
	BSB-GW-05-090914	9/9/14	1000		x			2	1		1			x	x					002
	BSB-GW-08-090914	9/9/14	1105		x			2	1		1			x	x					003
	BSB-GW-07-090914	7/9/14	1230		x			2	1		1			x	x					004

Sampler's Name: DJ Renz, T. Hickey
Sampler's Company: Pioneer Technical Services
Shipment Method: Fedex Ship Date: 9/9/14
Shipment Tracking No: 805384358465

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
DJ Renz / Pioneer Tech	9/9/14	1440	/ Pace	9/10/14	9015

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: [✓ Yes] / No | Temp Blank: [✓ Yes] / No | Cooler Temp on Receipt: 1.4 °F/C | Trip Blank: Yes / [✓ No] | MS/MSD Sample Submitted: Yes / [✓ No]

Pace Analytical®	Document Name: **Sample Condition Upon Receipt Form - ESI**	Document Revised: 09May2014 Page 1 of 1
	Document No.: **F-MN-L-210-rev.12**	Issuing Authority: Pace Minnesota Quality Office

Sample Condition Upon Receipt – ESI Tech Specs

Client Name: BP - Pioneer Tech.

Project #: WO# : 10280884

10280884

Courier: ☒ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ SpeeDee ☐ Other:______

Tracking Number: 8053 8435 8465

Custody Seal on Cooler/Box Present? ☒ Yes ☐ No **Seals Intact?** ☒ Yes ☐ No

Optional: Proj. Due Date: Proj. Name:

Packing Material: ☒ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other:______ **Temp Blank?** ☒ Yes ☐ No

Thermom. Used: ☐ B88A9130516413 ☒ B88A912167504 ☐ B88A9132521491 **Type of Ice:** ☒ Wet ☐ Blue ☐ None ☐ *Samples on ice, cooling process has begun*

Cooler Temp Read (°C): 1.1 **Cooler Temp Corrected (°C):** 1.4 **Biological Tissue Frozen?** ☐ Yes ☐ No ☒ NA

Temp should be above freezing to 6°C **Correction Factor:** +0.3 **Date and Initials of Person Examining Contents:** DN 9/10/14

				Comments:
Chain of Custody Present?	☒ Yes	☐ No	☐ N/A	1.
Chain of Custody Filled Out?	☒ Yes	☐ No	☐ N/A	2.
Chain of Custody Relinquished?	☒ Yes	☐ No	☐ N/A	3.
Sampler Name and/or Signature on COC?	☒ Yes	☐ No	☐ N/A	4.
Samples Arrived within Hold Time?	☒ Yes	☐ No	☐ N/A	5.
Short Hold Time Analysis (<72 hr)?	☐ Yes	☒ No	☐ N/A	6.
Rush Turn Around Time Requested?	☐ Yes	☒ No	☐ N/A	7.
Sufficient Volume (triple volume provided for MS/MSD)?	☒ Yes	☐ No	☐ N/A	8.
Correct Containers Used?	☒ Yes	☐ No	☐ N/A	9.
-Pace Containers Used?	☒ Yes	☐ No	☐ N/A	
Containers Intact?	☒ Yes	☐ No	☐ N/A	10.
Filtered Volume Received for Dissolved Tests?	☐ Yes	☒ No	☐ N/A	11. Sample 1 needs lab filter; 2,3,4 are filtered.
Sample Labels Match COC?	☒ Yes	☐ No	☐ N/A	12. Sample 1 BP3N not filled -> needs filtering from BP2U.
-Includes Date/Time/ID/Analysis Matrix: WT				
All containers needing acid/base preservation have been checked?	☒ Yes	☐ No	☐ N/A	13. ☒ HNO_3 ☐ H_2SO_4 ☐ NaOH ☐ HCl
All containers needing preservation are found to be in compliance with EPA recommendation? (HNO_3, H_2SO_4, HCl<2; NaOH>9 Sulfide, NaOH>12 Cyanide)	☒ Yes	☐ No	☐ N/A	Sample # 2-4 1/1
Per method, VOA pH is checked after analysis				Initial when completed:____ Lot # of added preservative:____
Headspace in VOA Vials (>6mm)?	☐ Yes	☐ No	☒ N/A	14.
3 Trip Blanks Present?	☐ Yes	☐ No	☒ N/A	15.
Trip Blank Custody Seals Present?	☐ Yes	☐ No	☒ N/A	
Pace Trip Blank Lot # (if purchased):____				

CLIENT NOTIFICATION/RESOLUTION **Field Data Required?** ☐ Yes ☐ No

Person Contacted: ______ Date/Time: ______

Comments/Resolution:

Temp Log: Temp must be maintained at <6°C during login, record temp every 20 mins		
Opened Time: 1418	Temp: 1.4	Corrected Temp:
Time: 1427	put in cooler	
Time: ~~16~~ DN 9/10	Temp:	Corrected Temp:

Project Manager Review: ______ **Date:** 9/12/14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

bp rm

Laboratory Management Program LaMP Chain of Custody Record

Page 1 of 1

BP Site Node Path:

Req Due Date (mm/dd/yy):

Rush TAT: Yes ___ No ___

BP Facility No: Old Landfill/Clark Tailings

Lab Work Order Number:

Lab Name:	Facility Address:	Consultant/Contractor: Pioneer Technical Services
Lab Address:	City, State, ZIP Code:	Consultant/Contractor Project No:
Lab PM:	Lead Regulatory Agency:	Address: 40 Spanish Peak Drive, Suire 101 Bozeman, MT 59718
Lab Phone:	California Global ID No.:	Consultant/Contractor PM: J.D. Emmert
Lab Shipping Accnt:	Enfos Proposal No:	Phone: 406-782-5177 Email: jemmert@pioneer-technical.com
Lab Bottle Order No:	Accounting Mode: Provision ___ OOC-BU ___ OOC-RM ___	Email EDD To: and to lab.enfosdoc@bp.com
Other Info:	Stage: Activity:	Invoice To: BP _x_ Contractor ___

BP Project Manager (PM):

BP PM Phone:

BP PM Email:

Report Type & QC Level

Standard _x_

Full Data Package ___

				Matrix				**No. Containers / Preservative**							**Requested Analyses**										**Comments**
Lab No.	**Sample Description**	**Date**	**Time**	Soil / Solid	Water / Liquid	Air / Vapor	Is this location a well?	Total Number of Container	Unpreserved	H2SO4	HNO3 (filtered)	HCl	Methanol		Dissolved Metals	(Sb, As, Ba, Be, Cd, Cr,	Co, Cu, Fe, Pb, Ni, Se,	V, Zn)	pH, SC, Chloride, SO4						Note: If sample not collected, indicate "No Sample" in comments and single-strike out and initial any preprinted sample description.
	BSB-GW-06-090914	9/9/14	1105		x			2	1		1				x				x						
	BSB-GW-05-090914	9/9/14	1000		x			2	1		1				x				x						
	BSB-GW-08-090914	7/9/14	1105		x			2	1		1				x				x						
	BSB-GW-07-090914	7/9/14	1230		x			2	1		1				x				x						

Sampler's Name: DJ Renz, T. Hickey

Sampler's Company: Pioneer Technical Services

Shipment Method: FeDex Ship Date: 9/9/14

Shipment Tracking No: 805384358465

Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
DJ Renz / Pioneer Tech	9/9/14	1440			

Special Instructions:

THIS LINE - LAB USE ONLY: Custody Seals In Place: Yes / No | Temp Blank: Yes / No | Cooler Temp on Receipt: ________ °F/C | Trip Blank: Yes / No | MS/MSD Sample Submitted: Yes / No

Pace Analytical™
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

Section A
Required Client Information:

Company:	Pioneer Technical
Address:	40 Spanish Peak Dr. Bozeman, MT 59718
Email To:	jemmert@pioneer-techinical.com
Phone:	406-782-5177
Fax:	
Requested Due Date/TAT:	Standard

Section B
Required Project Information:

Report To:	J.D. Emmert
Copy To:	
Purchase Order No.:	
Project Name:	OLD LANDFILL
Project Number:	

Section C
Invoice Information:

Attention:	Gary Keeler (406-497-6515)
Company Name:	BSB Public Works Dept
Address:	126 W. Granite Butte,MT 59701
Pace Quote Reference:	
Pace Project Manager:	Julie Thieschafer
Pace Profile #:	21705

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: MT

Section D
Required Client Information

Valid Matrix Codes

MATRIX	CODE
DRINKING WATER	DW
WATER	WT
WASTE WATER	WW
PRODUCT	P
SOIL/SOLID	SL
OIL	OL
WIPE	WP
AIR	AR
OTHER	OT
TISSUE	TS

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	TIME	COMPOSITE END/GRAB DATE	TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test Y/N	Cyanide	Nitrate+Nitrite	COD	pH, SC, SO4 and Chloride	8260	Dissolved Metals*	Sulfide	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	BSB-GW-01-090814		G	9/8	030				7	1	1	1	3	1					X	X	X	X	X	X			
2	BSB-GW-02-090814		G	9/8	1256				6	1	1		3	1					X	X	X	X	X				
3	BSB-GW-03-090914		G	9/9	915				6	1			3	1					X	X	X	X	X				
4	BSB-GW-04-090814		G	9/8	1616				6	1	1		3	1					X	X	X	X	X				
5	~~BSB-GW-05-090914~~ DL		~~G~~	~~9/9~~	~~1000~~																	~~X~~		~~X~~			
6	~~BSB-GW-06-090914~~ DL		~~G~~	~~9/9~~	~~1116~~																	~~X~~		~~X~~			
7	BSB-GW-07-090814		G	9/8	165				3				3										X				
8	~~BSB-GW-08-090914~~ DL		~~G~~	~~9/9~~	~~1105~~																		~~X~~				
9	~~BSB-GW-09-090914~~ DL		~~G~~	~~9/9~~	~~1230~~																	~~X~~	~~X~~				
10																											
11																											
12																											

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
*Sb, As, Ba, Be, Cd, Cr, Co, Cu, Fe, Pb, Ni, Se, V, Zn	DJ Renz / Pioneer tech	9/9/14	14:40				
805384354882							

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: DJ Renz
SIGNATURE of SAMPLER: DJ Renz
DATE Signed (MM/DD/YY): 09/09/2014

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

805384358465

805384354882

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-Feb-2007

Closed

County Silver Bow
Facility & # Butte-Silver Bow #20

Closure
Finan Assur
GW Corr Meas
[✓ GW Monitoring]
GW Reports
Inspections
Other:

Landfarm
Liner
Methane
O & M
Run-on

Van Oort, Martin 4/1/13 MVO

From: Brad Hollamon <bhollamon@pioneer-technical.com>
Sent: Wednesday, March 27, 2013 4:43 PM
To: Van Oort, Martin
Cc: 'Bill Henne'; 'Mitch Mihailovich'
Subject: Old Landfill/Clark Tailing sampling

Martin,

Pioneer is planning to sample the Old Landfill/Clark Tailing wells on Tues. 4/2 and Wed. 4/3/13. Sorry for the short notice, we are juggling several sampling events and personnel over the next few weeks.

Thanks,
Brad Hollamon
Pioneer Technical Services
406-490-7678

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OLD BUTTE SILVER BOW LANDFILL
LICENSE NUMBER 20

GROUND WATER MONITORING
OCTOBER 2012

IS LOCATED ON THE
OVER-SIZED SHELF
AT NORTH WALL

RECEIVED JANUARY 4, 2013

OLD BUTTE SILVER BOW LANDFILL
LICENSE NUMBER 20

GROUND WATER MONITORING
MARCH 2012

**IS LOCATED ON THE
OVER-SIZED SHELF
AT NORTH WALL**

RECEIVED MARCH 14, 2012